THE GAMES ANALYSIS INTERVENTION: A PROCEDURE TO INCREASE THE PEER ACCEPTANCE AND SOCIAL ADJUSTMENT OF SOCIALLY ISOLATED CHILDREN

By

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To

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The effectiveness of a therapeutic motor development program in increasing the social adjustment and peer acceptance of seven socially isolated fifth grade children was investigated using a single subject experimental design. Three female and four male children ages 10 through 11 were the subjects. The motor development program was based on the games analysis model, a framework from which any movement game can be analyzed and structured by the teacher and the students to account for the individual motoric, social, and emotional needs of the participants. The experimental condition included (a) instruction from an instructor in the games analysis process, (b) assessment of each child's motor skills in striking, throwing, running, catching, and kicking, and (c) playing games designed to account for the current stages of motor and social development of the children.

Peer acceptance of the socially isolated children was measured by a "play with" roster-and-rating sociometric instrument. Social adjustment was measured through use of a behavioral assessment tool. Two types of behavior were coded, task participation and social orientation. Data were obtained by trained observers.

An A-B-A-B single subject reversal design was employed to examine the experimental condition's effect on the social adjustment of the children. During the baseline phases, traditional movement games were played according to regulation rules. In the intervention phases, the movement games played were designed and adapted via the games analysis process by the instructor and students. The "play with" sociometric posttest was administered three weeks after the end of the experimental condition in order to measure gains in peer acceptance.

Pretest-posttest assessment of the peer status of the socially isolated children indicated that all seven children had made median rank position gains in peer acceptance among their classmates. Through experimental analysis of the single case subjects it was observed that the games analysis training resulted in a controlling effect on task participation and social orientation. The results are discussed with regard to implications for developing patterns of play based on individually based activities.

CHAPTER I

INTRODUCTION

This study concerns socially isolated children who have become the subject of increased clinical concern in recent years. Socially isolated children have been defined as those children who are rejected or nonaccepted by their peers (Gottman, Gonso, & Rasmussen, 1975; Gronlund, 1959).

One often observed characteristic of socially isolated children is the absence of a well developed repertoire of social behaviors (Hartup, Glazer, & Charlesworth, 1970). These children have difficulty in learning to relate in a reciprocally reinforcing manner with their peers (Allen, Hart, Buell, Harris, & Wolf, 1964; O'Connor, 1969, 1972). Typically, these children exhibit a wide range of socially deficient behaviors including lack of functional speech (Risley & Wolf, 1967), opposition to social requests (Wahler, 1967), and physical withdrawal from adults and peers (Hutt & Ounsted, 1966). They are friendless loners who are apparently unable to avail themselves of the joy and satisfaction of social reciprocity (Kauffman, 1977).

Child development specialists have recognized the importance of satisfying early peer contacts to children's cognitive,

emotional, and social growth (Piaget & Inhelder, 1969). Cooley (1909) wrote that "without healthy play, especially group play, human nature cannot rightly develop" (p. 49). More contemporary researchers also supported this viewpoint. Jones (1967) stated that early play experiences with peers may be as important for human development as Harlow and Harlow (1962) found it to be for the development of adaptive social and sexual behavior among rhesus monkeys. McCandless and Hoyt (1961) stressed that the normal development of preschool children is dependent upon peer interaction. According to these authors, peer interaction provides children with otherwise unobtainable opportunities to rehearse important life roles. Likewise, Reese and Lipsitt (1970) posited the importance of peer relationships to child development. They emphasized that early peer interaction is of profound developmental significance because it provides children with contexts for practicing motor, language, and social skills essential for adult functioning.

Children receiving restricted amounts of social stimulation from peers probably experience concomitant reductions in the physical and biological stimulation they receive (Bijou, 1966). Developmental delays in a number of areas of personal and academic competence are frequently associated with the socially isolated child (Amidon & Hoffman, 1965; Ausbel, 1958; Whitman, 1970). Socially isolated children are more likely than others to drop out of school (Ullman, 1957), to be identified as juvenile delinquents (Roff, Sells, & Golden, 1972), and to experience mental

health problems (Cowen, Pederson, Rabigan, Izzo, & Trost, 1973). Kohn and Clausen (1955) reported that the proportion of social isolates in adult manic depressives and schizophrenics was close to one-third, while in normal control groups the proportion was close to zero. In a survey of research on suicide and attempted suicide, Stengel (1971) concluded that "social isolation is the common denominator of a number of factors correlated with a high suicide rate" (p. 28).

Despite the potential importance of increasing children's social reciprocity and peer acceptance, procedures for modifying social isolation have not been generally successful (Amidon & Hoffman, 1965; Early, 1968). In several intervention studies (Chennault, 1967; Lilly, 1971; Rucker & Vincenzo, 1970), classroom activities such as performing in a skit were provided to increase isolated children's peer acceptance. Compared to control groups, the isolated children tended to make initial gains in peer status. When follow-up sociometric assessment was employed just several weeks after the intervention, however, it was found that the initial gains had not been maintained. The initial gains in peer acceptance may have resulted from the isolated children's greater visibility in the classroom. These interventions, however, did not teach the children the social skills necessary to maintain peer status when special situations were not provided. It is important that procedures be developed which will result in more lasting gains in isolated children's peer relationships.

Given the importance of early play experiences with peers (Piaget & Inhelder, 1969; Loy & Ingham, 1973), instruction in play and game skills is a variable that may be used to effect isolates' peer acceptance. There is limited clinical evidence which suggests that socially isolated children are deficient in the motoric abilities and physical skills necessary to relate in a reciprocally reinforcing manner with their peers in play and game activities (Fraleigh, 1956; Haley, 1969; Gruber & Kirkendall, 1974). Cowell (1960) and Cowell and Ismail (1961) have conducted a number of studies with children involving the relationship between sociometric status and physical abilities. In general, they found that boys who score high on physical measures enjoy high acceptance on sociometric measures while boys who score low on physical measures receive low acceptance on sociometric measures. Clarke and Greene (1963) also found significant correlations between social acceptance and motor ability items in ten year old boys.

Evidence of the relationship between social isolation and delayed motor development has appeared in the child development literature (Ausbel, 1958; Hartup, 1970; Whitman, 1970). Ausbel (1958) theorized that the age at which children demonstrate behaviors characteristic of various periods or stages of motoric development depends, to a large degree, on the nature and extent of their social interaction. Hartup (1970) stated, "There is little doubt that the changes which occur in child-child interactions during infancy and childhood are closely linked with changes in sensory-motor capacities" (p. 368).

One intervention identified in the literature to facilitate social interaction and the development of physical skills is the method games analysis. Games analysis developed by Morris (1976) is a process whereby a teacher can structure a game to account for individual motoric differences as well as to promote specific behavioral outcomes such as cooperation.

In games analysis, a game is divided into six categories (players, equipment, movement pattern, organizational pattern, limitations, and purpose) with each category consisting of a number of components. It is possible to provide a wide range of educational experiences by changing the components of one or more categories dependent upon the types of experiences the teacher desires for the children to experience. To manipulate components and/or categories constructively involves both the teacher and students in a "games analysis" process. If specific social, emotional, and motor behaviors are to be enhanced, the games must be designed to account for the current growth and development of the performers. For example, by allowing the students to decide what piece of equipment to use when at bat in a softball "type" of game, the motoric needs of each student can be accounted for within the game structure. The highest skilled student may choose to use a regulation softball bat and a regulation softball thrown in the traditional manner. On the other hand, the least skilled student may choose to have a large rubber ball rolled toward him and to strike the ball with an oversized underweighted bat. The child who was heretofore labelled as

"clumsy" may now be totally included and accepted as an equal since all abilities are considered. Giving children the opportunity to make decisions prevents the game structure from automatically excluding children due to their poor motor skills.

There are three major factors within the games analysis process which contribute to children's social and physical development: (1) allowing children the opportunity to share in decision making about the structures of the games to be played, (2) instructing children in problem solving skills via games analysis strategies, and (3) focusing on children's motor skills and designing games and movement tasks to account for the current stages of motor development by the children. These factors are utilized in structuring games to promote specific social, emotional, and motoric behaviors.

The present investigation was designed to examine the efficacy of the games analysis intervention in increasing the peer status and pro-social behavior of the isolated child. Peer acceptance was measured by a "play with" roster-and-rating sociometric instrument as designed by Roistacher (1974). Social adjustment was measured through use of a behavioral assessment tool. Two types of behavior were coded, task participation and social orientation. Task participation referred to whether or not the child was participating in playground activity. Social orientation referred to the type of peer-oriented behavior which the child was exhibiting. There were four mutually exclusive categories to code the behavior:

(a) peer oriented/supportive, (b) uncommunicative/ignoring, (c) uncooperative/rejecting, and (d) other, that is, behavior in response to outside noise or distraction.

Previous researchers have neglected to assess the effectiveness of a therapeutic motor development program in enhancing the socially isolated child's sociometric status and social behavior. The importance of physical activities, particularly games, as methods of facilitating social-emotional development merits experimental research.

Statement of the Problem

The purpose of this study was to investigate games analysis as a method of training socially isolated children in motor and game skills for positive changes in peer acceptance and social adjustment. This investigation was one of the first attempts to modify social isolation by means of a therapeutic motor development program.

Questions Under Investigation

This study was designed to answer the following questions:

1. Will the games analysis intervention increase the peer acceptance of socially isolated children?

2. Will the games analysis intervention increase the task participation of socially isolated children?

3. Will the games analysis intervention increase the peer oriented/supportive behavior of socially isolated children?

4. Will the games analysis intervention decrease the uncommunicative/ignoring behavior of socially isolated children?

5. Will the games analysis intervention decrease the uncooperative/rejecting behavior of socially isolated children?

Definition of Terms

Games Analysis--a framework or model from which any movement game can be analyzed, investigated, and/or modified.

Peer Acceptance--the ratings a child receives from his same sex peers' responses to the question, "How much do you like to play with this person at school?" as measured by a roster-and-rating sociometric questionnaire.

Peer Oriented/Supportive Behavior--behavior toward peers on the part of the child which is socially appropriate (looking, touching, or talking in a neutral way toward peers) or supportive (smiling at or being helpful toward peers).

Socially Isolated Children--the two least accepted children in a school classroom based on the ratings received from same-sex classmates as measured by a roster-and-rating sociometric questionnaire.

Uncommunicative/Ignoring Behavior--behavior toward peers which is uncommunicative (not looking, touching, or talking to peers) or ignoring (looking away, turned away from peers).

Uncooperative/Rejecting Behavior--behavior toward peers which is uncooperative (bullying peers, hogging materials) or antisocial (name calling, making mean faces at peers).

Delimitations

The sample population for this study was taken from Alachua County in the state of Florida, and only fifth grade children participated. The ages of the subjects ranged from 10 to 11 years. This sample cannot be considered representative of all fifth grade children or of all young children in the state of Florida nor in the United States.

Limitations

At least four limitations of the study must be considered. First, the subjects of this study cannot be said to be representative of all socially isolated children. There is great variability in definitions and diagnoses of the syndrome of social isolation.

Second, the sociometric assessment used in this study does not record actual association; it does not describe actions; and it does not provide a picture of the actually existing group relations in a concrete situation. Sociometry records only what people report and has the virtues and limitations of any such

subjective data. Generalizing from a study utilizing sociometric instrumentation should be done with caution (Olmsted, 1959).

Third, since Alachua County is primarily a rural agrarian environment, these findings cannot be considered representative of children from urban industrial environments. Finally, the researcher of the present study served as the instructor in the games analysis training. Although a conscientious effort was made to minimize differences in the instructor's role during baseline and treatment phases, it may be that the instructor was more enthusiastic and/or attentive during the treatment phases.

Summary and Overview

In Chapter I, the problem under investigation was introduced and the need for such an investigation briefly discussed. In Chapter II, the review of literature, the problem will be discussed in more detail as it fits into the context of past research. The actual procedures involved in the study will be presented in Chapter III. The data obtained in the study are presented in Chapter IV. In Chapter V the reader will find a discussion of the data and the results of the study and recommendations for research that will further investigate the efficacy of the games analysis intervention in increasing the peer acceptance and social adjustment of isolated children.

CHAPTER II

REVIEW OF THE LITERATURE

There are four bodies of literature relevant to the present study. Each will be reviewed in this chapter. The review includes literature concerning (a) the socially isolated child, (b) sociometrics and peer acceptance, (c) physical activity and the social-emotional development of children, and (d) games analysis.

Socially Isolated Children

The two most commonly used methods of identifying socially isolated children are based upon (a) sociometric (peer ratings) measures (Amidon, 1961; Gottman, Gonso, & Rasmussen, 1975; Marshall & McCandless, 1957) and (b) behavioral observation measures of social interaction frequency or duration (Allen et al., 1964; O'Connor, 1972; Walker & Hops, 1973). These two assessment methods have led to two distinct definitions of social isolation in the literature. Investigators who have used behavioral observation measures of social interaction have conceptualized the problem of isolation as "social withdrawal," defined as low

relative frequencies of peer interaction (O'Connor, 1969, 1972). Other investigators using sociometric measures have conceptualized isolation as low levels of peer acceptance or high levels of peer rejection (Gottman, Gonso, & Rasmussen, 1975).

It is unclear whether social isolation is a unitary construct. The two conceptualizations have produced entirely separate literatures on intervention with social isolates. Efforts to increase the relative frequency of peer interaction with "withdrawn" children have been relatively successful (Evers & Schwarz, 1973; O'Connor, 1972); however, investigators who have studied low frequencies of peer interaction have failed initially to assess whether a low frequency of peer interaction is a problem which should, in fact, be ameliorated. It is not obvious that children should all interact with one another at a specified rate or that children whose relative frequencies are well below average are somehow at psychiatric risk (Gottman, 1977; Gottman, Gonso, & Rasmussen, 1975).

Conversely, there are data to suggest that children who are rejected or are not accepted by their peers are at risk and that sociometric measures are predictive of later social functioning (Cowen et al., 1973; Roff, Sells, & Golden, 1972). Gottman (1977) constructed a classification system for describing socially isolated children by assessing 113 children in Head Start classrooms using sociometric measures of acceptance and rejection and observational measures of frequency of behavior.

There was no relationship between peer acceptance and the relative frequency of peer interaction, suggesting that these two measures of social isolation do not tap the same dimension. In this study the term "socially isolated" is used as a descriptor for children who are unpopular with peers.

Socially isolated children may be classified with respect to a bipolar continuum that ranges from Type I, deficient social repertoire to Type II, deficient social performance (Strain, Cooke, & Apolloni, 1976). Type I behavior is demonstrated by children who, in an environmental setting suitable for the maintenance of most children's social behavior, consistently exhibit a limited number of social-response behaviors. Moreover, these social-response behaviors are emitted at low rates and are frequently not under the stimulus control of peer behavior. In some extreme cases, human attention does not function as a generalized conditioned reinforcer with Type I children (Lovaas, Freitag, Kinder, Rubenstein, Schaeffer, & Simmons, 1964). The distinguishing characteristic of Type I children is that they have not acquired the basic vocal and motor-response behaviors that are necessary for mutually reinforcing interactions with peers. Children classified under Type II, deficient social performance, are capable of demonstrating a variety of adaptive responses in peer interactions but rarely engage in mutually reinforcing interactions with peers and/or engage in mutually reinforcing interactions only (1) in the presence of

certain people such as teachers but not with peers (Hart, Reynolds, Baer, Brawley, & Harris, 1968) or (2) with opposite sex peers but not same sex peers (Sibley, Abbot, Stark, Bullock, & Leonhardt, 1967). Therefore, Type II children are those who have the necessary behavioral repertoire for mutually reinforcing interactions with peers, but, nonetheless are not successful in their peer interactions. Type II children are the subjects of this investigation.

Prevalence

Social isolation represents a major presenting symptom in 14% to 30% of cases in which children are referred for psychological services (Gilbert, 1957; Heinstein, 1969; Woody, 1969). Gilbert (1957) found that isolate behavior was a presenting problem in approximately 15% of the children referred to four urban child-guidance centers. In another study, Woody (1969) found that social isolation was a major presenting complaint in 14% of preadolescent age problem children identified through teacher referrals. Finally, Heinstein (1969) reported that of 142 mothers surveyed in California, 30% indicated that their five year old children had too few friends.

Social isolation may be a condition that frequently begins in the preschool years and lasts for long periods, perhaps throughout life (Morris, Sorokin, & Burrus, 1954). Research has shown that children's peer-group acceptance generally stabilizes during the preschool years (Green, 1933) with mutually congenial children

pairing off into relationships that exclude unpopular children (Sorokin & Groves, 1950). Singer (1951) presented evidence that indicated long-term consistency in attained levels of peer-group acceptance. Bonney (1943) and Ausbel (1958) stated that children not accepted by their peers in the early grades will have considerable problems in achieving satisfying interpersonal relationships as adults.

Behavioral Correlates

Social isolation is normal for all children in some situations. It is generally agreed that when social isolation inhibits the normal personality development of a child an intervention procedure is required (Kauffman, 1977; Ross, 1974). The behaviors that make up the social isolation syndrome, as previously noted, may occur with a varying degree of severity.

Social isolation involves behavior that keeps people at a distance physically and emotionally (Kauffman, 1977). The unpopular child may exhibit a lack of specific behavioral responses, such as looking at, talking to, playing with, and touching peers or adults (Amidon, 1961; Keller & Carlson, 1974). Usually the child is also lacking in responsiveness to others' initiation of social contact (Buell et al., 1968; Strain & Timm, 1974). Numerous authorities on children's peer relationships have suggested that the isolate or unpopular child does not engage in mutually reinforcing interactions with peers (Blasdel, 1968;

Charlesworth & Hartup, 1967; Evers & Schwarz, 1973; Kirby & Toler, 1970; Quiltich & Risley, 1973; Wahler, 1967). Social reciprocity is a major antecedent of social acceptance and rejection (Marshall & McCandless, 1957). Newcomb (1956) has stressed the importance of positive reinforcers in the emergence of attraction between individuals and Byrne (1961) has argued that the proportion of positive reinforcers dispensed by one individual to another determines attraction between them. Hartup, Glazer, and Charlesworth (1970) conducted a study to examine the relationship between peer reinforcement and peer acceptance. Major findings of the study were that social acceptance was significantly correlated with giving positive reinforcement,and rejection was significantly correlated with giving negative reinforcement. These correlations support the role of reinforcing interaction in the emergence of interpersonal attraction.

Children who are unsuccessful in engaging in mutually reinforcing interactions with peers will be seriously handicapped in acquiring many of the complex behavioral repertoires necessary for effective social functioning (Marshall & McCandless, 1957). Children who are unable to relate skillfully to others are likely to experience rejection, harassment, and generally hostile treatment from peers (O'Connor, 1969, 1972). These negative experiences would most likely reinforce interpersonal avoidance responses and further handicap the child in developing competencies that are socially mediated.

Bandura (1963) pointed out that learning theory predicts that some children, especially those who have not been taught appropriate social interaction skills and those who in the past have been punished for attempts at social interaction, will become social isolates. The same children may learn to counter-agress against others who attack them, or attack unsuspecting victims when the potential consequences of their assaults seem likely to be favorable.

Gottman, Gonso, and Rasmussen (1975) reported that a relationship exists between peer acceptance and cognitive development. These authors found that popular and unpopular children differed in their knowledge in how to make friends and on a referential-communication task. Using Piaget's stages of cognitive development Rarden and Moan (1971) showed that peer relationships develop in a manner similar to the development of the physical concepts of conservation and classification. The authors interpreted results from their study by suggesting that cognitive and social development parallel one another and are possibly interdependent processes. Direct support for the hypothesis of a relationship between popularity and cognitive development comes from a study by Goldschmid (1968) in which she found popular peers to be more adept at conversation while other investigators have found socially isolated children to be slower at overcoming egocentrism (Neale, 1966) and less apt to recognize and label emotions (Izard, 1971).

Socially isolated children may be low achievers in school (Bonney, 1971) and may exhibit learning difficulties (Amidon, 1961; Amidon & Hoffman, 1965). Bryan (1974, 1976) pointed out that the poor academic performance of the isolated child may be a result of restrictions in sensory stimulation associated with low interaction levels. Inadequate stimulation may result in a failure to develop those discriminations that are necessary for successful school performance. Harris and Sherman (1973) found that peer-peer tutorial sessions held immediately before math classes resulted in increased performance rates. Cobb (1970) reported that on-task conversation about academic materials by peers resulted in greater achievement gains than did individual attention to task. It has been shown that children learn much through interaction with one another. Since socially isolated children receive little peer stimulation, their academic performance may be depressed.

Other commentators have noted that socially isolated children are likely to be retarded in motor skills (Fraleigh, 1956; Haley, 1969; Hartup, 1970). Smoot (1974) stated the issue:

> Because many motor skills and discriminations are learned in a context of interpersonal reinforcement, social interaction is a critical prerequisite for much of a child's motoric development. Conversely, the absence of social interaction probably insures that development will be retarded. (p. 8)

McGrew (1972) in an ethological study of children's social behavior, characterized the isolated child as physically

apprehensive, uncoordinated, and delayed in gross motor development. Numerous individuals have conducted studies involving the relationship between physical skills and peer acceptance (Clarke & Greene, 1963; Coleman, 1966; Cowell, 1960; Cowell & Ismail, 1961, 1962; Fraleigh, 1956; Gruber & Kirkendall, 1974; Yarnall, 1966). The findings of these studies suggested the important role physical abilities and motor skills play in peer acceptance.

In summary, the socially isolated syndrome can be defined in terms of the following observable events: (1) behaviors that keep people at a distance physically and emotionally; (2) deficient responsiveness to others initiation of social contact; (3) failure to achieve social reciprocity; (4) delayed cognitive development; (5) low academic performance; and (6) delayed motoric development. The link between social isolation and developmental deficits in a number of areas appears to be established.

Interventions

Some (Bloom, 1964) believe that environmental manipulations have optimum impact while children are young, a time when their behavioral repertoires are undergoing rapid expansion and refinement. The most efficacious time, therefore, to influence human social development is when children are young and first learning to interact with peers (Apolloni & Cooke, 1975). In accordance with this perspective, numerous attempts have been made to study levels of interaction and degrees of peer acceptance while

experimentally altering their environment. In this section, there is a critical review of procedures that have been purported effective for increasing Type II socially isolated children's friendship making ability and social interaction. Evaluative research on operant conditioning techniques is presented followed by a review of special event techniques used to modify isolates' behavior and acceptance. Next, a critical look at peer attention procedures and affective educational techniques is included, followed by a discussion of needed research on the influence of therapeutic motor development programs.

Operant conditioning techniques have been used extensively to train isolated children in social skills. Behavioral shaping and modeling procedures have been used to increase the frequency of isolated children's peer interactions. In shaping procedures, social praise or tangible rewards have been used to increase the frequency of children's peer interactions gradually (Allen, Hart, Buell, Harris, & Wolf, 1964; Amidon, 1961; Blasdel, 1968; Hart, Reynolds, Baer, Brawley, & Harris, 1968; Milkey, 1970; Shores, Hester, & Strain, 1976). Although such procedures generally increase the frequency of isolated children's peer interactions, the children's behavior tends to return to baseline levels once reinforcement has been terminated (O'Connor, 1972). Case study reports have indicated that a gradual fading of reinforcement may result in longer-lasting effects (Baer & Wolf, 1970).

In modeling procedures, socially isolated children have viewed films of other children receiving positive experiences when they approached other children to join an activity or conversation (e.g., O'Connor, 1969, 1972). In the O'Connor research, the group of socially isolated preschool children who viewed the film were subsequently observed to increase their peer interactions. A control group which watched a neutral film did not change. When the author conducted a follow-up assessment several weeks later he found that the increase in peer interactions of the experimental group was maintained and the control group remained unchanged. Similar results have been found elsewhere with the same experimental film (Evers & Schwarz, 1973).

Keller and Carlson (1974) employed several videotapes in which a different social interaction skill was featured in each videotape. Isolated preschool children watched a series of videotapes in which children performed positive social behaviors with peers by either imitating, smiling and laughing, giving tokens, or giving physical contact signifying affection. As in the O'Connor film, the videotapes were accompanied by a narrative sound track in which the actions of the children were described. A control group watched neutral films. The authors found that children who saw the modeling videotapes increased significantly more than the control group in giving and receiving social reinforcement and in frequency of social interaction.

Follow up results, three weeks later, indicated no significant differences between the experimental and control conditions.

Unfortunately, none of the investigators who have studied behavioral shaping and modeling effects have included sociometric measures of peer acceptance as part of the evaluation of the intervention. These investigators have assumed that low peer interaction rates are equivalent to being socially isolated, by which they presume that these children are unpopular or socially unskillful and that these children would like to, but are actually unable to make friends with peers. It is not obvious that children should all interact with one another at a specified rate or that children whose relative frequencies are well below average are somehow at psychiatric risk (Gottman, 1977).

Special event techniques is another educational procedure that has been used with socially isolated children. In several intervention studies environmental conditions were arranged to provide situations conducive to social interactions. Quiltich and Risley (1973) examined the possibility that children's social behavior might be influenced by the nature of play materials. Children in an urban recreational center were systematically provided with toys designed for social or isolate play. The authors found that the subjects spent a large percentage of time in play under both conditions (96% with isolate toys and 98% with social toys), but that the type of play, social or isolate,

varied dramatically as a function of the type of toy being used. The investigators concluded that toys may be of therapeutic value in facilitating social behavior.

Chennault (1967) used classroom skits to increase isolated children's peer acceptance. The isolated children tended to make initial gains in peer status, but when a sociometric assessment was administered several weeks after the intervention, the author found that the initial gains had not been maintained.

Another way to use special events to increase isolates' play with peers was reported by Kirby and Toler (1970). Their study attempted to increase the rate of interaction between a five-year-old isolate boy and his nursery school classmates. He was induced to pass out choices of candy to his classmates and subsequently given a nickel, candy, and praise from the teacher. By strengthening the interaction behaviors in this particular situation it was thought that the behavior would generalize to other situations. It was found that interaction with classmates increased greatly during the periods he passed out choices of candy. These changes may have been due to increases both in his rate of initiating activities with classmates and to increases in his classmates rate of initiating activities with him; however, the issue of generalization from the training situation was not assessed empirically.

A third major intervention category with socially isolated children has been peer attention procedures. Numerous

experimenters (Kinney, 1953; Kohn, 1966; Levison, 1971; O'Connor, 1969, 1972; Wahler, 1967; Walker & Hops, 1973) have investigated the influence of peer reinforcement on the frequency of social responsiveness. Kohn (1966) investigated the extent to which rate and quality of peer activity directed toward a particular child was the function of the rate and quality of acts that the child initiated toward others. Positive correlations were found between (a) the rate at which a child initiated interaction toward others and the rate at which his peers initiated interaction toward him, (b) the proportion of positive acts that the child initiated toward others and the proportion of positive acts that they initiated toward him, and (c) the proportion of positive acts that the child initiated toward his peers and the ratio of the rate of others initiating toward the child by rate of his initiating toward others. It was concluded that in an interaction with peers a child manages to evoke from them the kind of behavior that will permit him to maintain his prevailing mode of adaptation.

Levison (1971) designed an experiment to investigate the efficacy of peers in decreasing the social isolation of a preschool child. It was found that as the withdrawn child becomes the recipient of positive reinforcement from peers, the child demonstrates an increase in both verbal interactions with others and cooperative play. The socially isolated child, by lacking the social skills to reward his peers, therefore, may be an infrequent

recipient of social interchange. The author suggested pairing children who provide positive reinforcement at a relatively high rate with those classmates who received and provided rewards at a low rate in order to increase their cooperative play and social skills.

In another study utilizing peer attention procedures Wahler (1967) demonstrated that the social interaction of peers is subject to reinforcement control of peer attention. He found that children may control one another's behaviors in accordance with an experimenter's instructions; for example, the control of aggressive behavior such as throwing toys and inappropriate shouting and running. Children's aggressive behavior increased when it was reinforced by peers. As a result, Wahler (1967) postulated that the socially isolated child might be most effectively treated by techniques utilizing peer social attention contingencies.

As in the behavioral shaping and modeling studies with isolated children, the isolated children in peer attention studies have been identified on the basis of their low frequency of peer interaction and/or teacher selection. Since no measures of peer acceptance were collected, it is impossible to assess whether the increased peer interactions also resulted in gains in peer acceptance or friendships. Peer attention procedures have produced reliable increases in training (Walker & Hops, 1973) but have not, as yet, been shown to result in generalized performance increases under nontraining conditions.

Affective educational strategies to assist socially isolated children in gaining peer acceptance have been employed by several experimenters (Amidon & Hoffman, 1963, 1965; Early, 1968; Flanders & Havumaki, 1960; Northway, 1944). Amidon and Hoffman (1963) recommended assisting isolated children by (1) the creation of an accepting classroom atmosphere through increased teacher acceptance of all pupils, (2) group discussions and role playing to heighten children's understanding of the feelings associated with one another's social roles, (3) awarding isolated children status responsibilities in the classroom, and (4) teacher conferences with the isolated child. Evaluative studies regarding the efficacy of these and similar techniques, in some cases, revealed statistically significant improvements by isolates in their classroom sociometric position (Amidon, 1961; Moreno & Jennings, 1944; Northway, 1944). Individual changes, however, generally were small, and no assessments were made of the durability of the changes achieved. Furthermore, the affective techniques employed were neither specified in operational, repeatable terms, nor systematically evaluated (Bonney, 1971). A number of additional evaluations of these same tactics, moreover, resulted in nonsignificant changes for experimental versus control subjects (Amidon & Hoffman, 1965; Early, 1968; Mayer, Kransler, & Matthews, 1967).

While the efficacy of affective interventions with isolated children has not been established in the literature, a number of

conclusions with implications for future research seem warranted. First, Amidon (1961) demonstrated that teachers were more successful in enhancing an isolate's peer popularity when they related specific affective techniques to specific acceptance problems. That is, affective interventions must be individualized and tailored to meet the particular needs of each isolated child. Secondly, Bonney (1971) noted that, although significant changes in group performance were rare in affective interventions, in each study, several students made exceptional gains on sociometric choice. Bonney (1971) concluded that "in future studies of this nature much more focus should be placed on individuals as opposed to concentration on group data" (p. 362). Thus, Bonney recommended using single-subject rather than group-research design.

There have been few investigations concerning the efficacy of therapeutic motor development programs in enhancing the social adjustment of isolated children. A few studies (Brown, 1970; Myrick, 1970; Wahler, 1967) have shown that social interaction variables may be enhanced through participation in motor and play skill training. Given the evidence (Coleman, 1966; Cowell & Ismail, 1961, 1962; Fraleigh, 1956) which suggests a moderate relationship between peer acceptance and physical abilities and the findings of child developmentalists (Ausbel, 1958; Whitman, 1970) that isolated children are often retarded in motoric development, the influence of motor training on social adjustment warrants further attention.

Morris (1976) reported clinical findings which suggested that a motor development program based on the games analysis model may be effective in contributing to the social-emotional development of children. In an experimental study, Marlowe, Algozzine, Lerch, and Welch (1978) found that a motor development program based on the games analysis model was effective in significantly reducing the feminine play preferences of boys identified as emotionally disturbed. These initial findings suggest the need for further research on the effectiveness of a motor development program based on the games analysis model in influencing the social-emotional development of children.

Sociometrics and Peer Acceptance

In dealing with affective relations within a group, the technique of study which has probably been employed more than any other is sociometry (Olmsted, 1959). Moreno initiated development of sociometric measures in 1934. In sociometric measures group members are given questionnaires asking them whom they like or dislike, or more specifically, whom would they like to play with, work with, sit next to, and so on. Their responses to the questionnaire provided a picture of the group's affective relationship among members, those who are most accepted and those who are least accepted or rejected.

Lindzey and Bryne (1968) summarized Moreno's (1934) requirements of a sociometric test as follows:

1. The limits of the group should be indicated to the subjects. For example, choices could be limited to members of a specific classroom.

2. The subjects should be permitted an unlimited number of choices.

3. The subjects should be asked to indicate the individuals whom they choose or reject in terms of a specific criterion. Each sociometric choice should be made with a meaningful activity in mind; for example, "name the students you would like to play with."

4. Results of the sociometric question should be used to restructure the group. Subjects should be told that their input will be used in making such decisions.

5. The subjects should be permitted to make their choices privately.

6. The questions used should be gauged to the level of the understanding of the sample.

Lindzey and Byrne (1968) commented on the above mentioned requirements as follows.

> The requirements outlined above identify the sociometric measure in a more or less pure form, and are generally in agreement with Moreno's definition. However, relatively few studies in this area meet all the requirements. For example, the technique as used today seldom involves the promise of restructuring the group . . . . One of the more frequent modifications involves specifying the number of choices the individual is required to make. (p. 455)

Thus, sociometric studies are not uniform in their methodology. This poses a problem in assessing the reliability and validity of the technique; however, since pure applications of sociometric testing are the exception, rather than the rule, and since the variations of the pure form seem to yield similar results; they will all be considered together and the reliability and validity of sociometric testing (in its broad sense) will be said to apply to the sociometric procedure used in this study. In fact, most of the studies in which the reliability and validity of sociometric tests have been addressed have been variations of the pure form (Gronlund, 1959). Concerning the reliability of sociometric testing, a point made by Gronlund (1959) needs to be considered.

> Perfect consistency from one test to another is neither expected nor desirable, owing to the dynamic nature of social relations. Revealing actual changes in social relations is as important a requirement of the sociometric test as providing results that are constant enough to have predictive value . . . . Thus, when applied to sociometric testing, the various coefficients of reliability refer to the consistency of choice behavior . . . rather than to the characteristic of the test itself. (p. 119)

Thus, the changes in sociometric results do not necessarily reflect testing error; to a great extent they reflect actual changes in the social preferences of the subjects. With this point in mind, the internal consistency and test-retest reliability of sociometric tests will be discussed.

Grossman and Wrighter (1948) determined the internal consistency of their sociometric testing with four classrooms of

sixth graders. They randomly divided each group in half and then correlated the sociometric status of each subject, as rated by one half of the class, with his status in the other half of the class. They reported coefficients of internal consistency from .93 to .97. Bass and White (1950) and Ricciuti and French (1951), using college students as subjects, reported internal reliability coefficients of .90. Ausbel, Schiff, and Gasser (1952) reported coefficients from .54 to .86 for third, fifth, and seventh graders and coefficients of .89 and .90 for 11th and 12th graders.

Test-retest reliability has been determined by correlating the sociometric status of subjects on one sociometric test with their status on another test at a later date. Witryol and Thompson (1953) and Thompson and Powell (1951) studied the consistency of sociometric choices made by sixth graders at intervals of one week, four weeks, and six weeks. Witryol and Thompson (1953) reported reliability coefficients ranging from .60 to .90, and Thompson and Powell (1951) reported correlations ranging from .89 to .92. In both studies, the coefficients tended to decrease after two months.

Using longer time intervals, Byrd (1951) found a reliability coefficient of .89 with fourth graders selecting partners for a play after a two-month interval, and Gronlund (1955) reported an average reliability coefficient of .75 for fourth, fifth, and sixth graders over a four-month interval. Bonney (1943)

administered a sociometric test, an IQ test, and an achievement test to a group of second graders for four consecutive years. The correlations of students sociometric status from one year to the next ranged from .67 to .84. The sociometric status of the children in this study was as consistent as their IQ and achievement scores over the four year period.

In studying the consistency of sociometric choices of high school students Northway (1947) reported coefficients of .90 for a one week interval and .60 for a one-year interval. Jennings (1950) investigated the sociometric choices of adolescent girls (12 to 16 years old) over time and found a correlation of .96 after four days and a correlation of .65 after eight months.

Thus, the results of sociometric testing are relatively consistent. They are almost as reliable as typical intelligence and achievement tests, as Bonney (1943) has demonstrated, and more reliable than most attitude/personality measures.

As with reliability, the concept of validity, as it is typically applied to testing and measurement, needs to be qualified in its application to sociometric tests. If sociometric tests are supposed to measure merely social choice, then they are by definition valid (Pepinsky, 1949). However, if they are to measure actual social relationship, they will certainly fall short of this expectation because, as Gronlund (1959) has mentioned,

> An individual's actual associations are influenced by environmental limitations, personal inhibitions, lack of reciprocal feelings on the part of the desired associates, and other related factors, as much as they are by his preferences. Thus actual association can be expected to show some variation from the desired associations indicated in sociometric choices. (p. 159)

Although sociometric choices do not correspond perfectly with actual associations, there is a great deal of overlap. This overlap, sociometric choices that are also actual associations, is considered evidence of the validity of sociometric testing for this study because the first hypothesis purports to measure peer acceptance. Studies in which the validity of sociometric testing have been investigaged have related sociometric status and sociometric choices with other measures of popularity and friendship choices (Bonney & Powell, 1953; Gronlund, 1955, 1956).

Concerning sociometric status, the observations of teachers and independent investigators correspond rather closely to the results of a sociometric test. Bonney and Powell (1953) found that sociometrically high first and second graders participated more frequently in cooperative group activities and associated with more children than did sociometrically low children. Newsletter, Feldstein, and Newcomb (1938) found a correlation of .76 between the sociometric status and the camp counselor ratings of popularity for 30 adolescent boys. Gronlund (1951) had 40 sixth grade teachers rank their students according to popularity; the average correlation between the teachers'

rankings and peers' rankings was .60. Gronlund (1955, 1956) obtained similar results in two other studies.

The individual choices of a subject are more complex and variable (Gronlund, 1959) than sociometric status. Therefore, individual choices are more difficult to observe and less likely to correspond closely with sociometric results. Biehler (1954) compared the first sociometric choice of kindergarten children with their observed play companions. About 74% of the chosen companions actually played with the children who chose them. Gage, Leavitt, and Stone (1955) asked 103 fourth, fifth, and sixth grade teachers to predict how each of their students would respond to a sociometric item that asked for the student to list five children in their room whom they would most prefer as classmates if the class were divided into two groups. The average correlation between the teacher's prediction and the sociometric results was .48. Considering that observations are subject to error and that some aspects of friendship cannot be observed, the above-mentioned evidence suggests that sociometric results correspond rather closely to actual friendships and peer acceptance.

Physical Activity and Social-Emotional Development

Few persons would deny that physical activities, including organized sports, have the "potential" for influencing social-emotional growth in children. Participation in physical

activities--including games, play, and sport--provides the opportunity for considerable social interaction under a wide range of situations. Helanko (1957) has suggested that physical activities have been developed by society for the specific purpose of developing social-emotional competence in young people.

The importance of physical activities, particularly games, as methods of facilitating social-emotional development has received attention in several cross-cultural studies. Roberts, Arth, & Bush (1959) suggested that games of strategy were related to mastery of the social system, games of physical skills were related to mastery of the physical environment, and games of chance were related to familiarity with the supernatural. Roberts and Sutton-Smith (1962) used these game categories in their analysis of the child rearing practices of 111 societies. Their findings in part confirm Roberts, Arth, & Bush's (1959) earlier proposal and in part supplement or replace it with evidence of additional motivational theme. Basically, they found that

1. societies that stress obedience training emphasized games of strategy;

2. societies that emphasize responsibility training stressed games of chance; and

3. societies that emphasize achievement stressed games of physical skill.

These findings were then used to predict game preferences among

segments of our society that could be differentiated on these three child-rearing dimensions. Sutton-Smith, Roberts, and Kozelka (1963) confirmed the prediction within our society for boys versus girls, and among adults who differed by sex, education, and occupation. Thus the combined within and cross cultural findings indicate a positive relationship between these games and children's social-emotional development. Sutton-Smith et al. (1963) did not provide any insight into how these activities are utilized in developing social-emotional competence.

Experimental investigations dealing with the contributions of physical activity to social-emotional development have been reviewed by Cowell (1960) and Layman (1960, 1970). Although Cowell sought evidence to show that physical activity contributed to social-emotional development, he was only able, at best, to establish that a moderate relationship exists between several social variables and participation in physical activity.

Layman (1970), relying on similar evidence as reviewed by Cowell, attempted to substantiate six major propositions.

1. Engaging in sports promotes physical fitness; physical fitness is associated with good emotional health and a lack of fitness with poor emotional health.

2. The acquisition of motor skills involved in sports contributes toward meeting the basic needs of safety and esteem in young children of both sexes and in young men from the early grades through college years.

3. Supervised play presents potentialities for promoting emotional health and preventing delinquency.

4. . . . when play, recreation, and athlectic activities are planned with individual needs in mind, they may be very valuable means of improving emotional health among emotionally disturbed children.

5. Play and sport supply outlets for the expression of emotion in approved activities which is conducive to the development and maintenance of emotional health.

6. Competitive sports, if properly used, may enhance emotional health and the acquisition of desirable personality traits. (p. 45)

The research evidence presented by Cowell (1960) and Layman (1960, 1970) does not substantiate these generalizations. Experimental studies in the physical education literature are largely correlational. Researchers have only suggested that a relationship exists between social-emotional development and physical activity, but they have not shown that participation in physical activity "causes" social-emotional growth (Stevenson, 1977). Physical educators preoccupation with justifying that physical activities "do" develop social-emotional variables has diverted them from examining "how" physical activity may facilitate social-emotional variables.

After reviewing the available experimental evidence, Fraleigh (1956) also identified a moderate relationship between physical activity and social adjustment (sociometric measures of acceptance), but he avoided interpreting a cause and effect relationship. Fraleigh did suggest, however, that the relationship may be a spiraling circular one.

> The better adjusted tend to participate in more social and competitive play because they have relatively higher levels of physical skills and because of their high skill levels they gain favorable self-evaluations in addition to higher status recognition from their peer groups. On the other hand, the more poorly adjusted tend to participate in more individualized and less competitive play because of relatively lower levels of physical skill. This lower level of skill leaves the more poorly adjusted in a less advantageous position in terms of gaining desirable evaluations of self and high status recognition from the peer group. (p. 271)

How does one enter the circular relationship hypothesized by Fraleigh (1956)? One way may be to improve motor skills. Although evidence is not conclusive, numerous studies have shown that in some cases improvement in motor skills by participation in motor development programs or other forms of physical activity has resulted in increased peer acceptance and social skills (Allen et al., 1964; Brown, 1970; Buell et al., 1968; Galvin & Witt, 1969; Gump & Sutton-Smith, 1955; Haley, 1970; Johnston et al., 1966; Myrick, 1970). Brown (1970) concluded that a six week motor program improved preschool males' ability to acquire rapport, to communicate, and to accept responsibility. Gump and Sutton-Smith (1955) utilized therapeutic play techniques in helping shy students become more aggressive and to help aggressive children become more controlled. Galvin and Witt (1969) found that a sociorecreation program for conduct-disordered boys assisted in the development of social skills and rechanneling deviant behavior. Haley (1970) employed

a movement training program with withdrawn emotionally disturbed children which resulted in increases in their interaction levels.

The development of social-emotional skills from participation in physical activity programs has not always been observed (Olson, 1968). Further research, however, giving careful attention to the type of physical activity, the instructional techniques used, and the specific social-emotional skills to be developed, should aid in clarifying these ambiguities.

Games Analysis

Games analysis is a method by which any movement game can be analyzed and investigated in the sense that game structure promotes specific outcome behaviors. Morris (1976) using the games analysis model, divides the structure of a game into six categories; players, equipment, organizational pattern, movement pattern, limitations, and purpose. Each category consists of a number of components. Table 1 contains an illustration of a variety of components selected from a few games by Morris (1976). It is possible to provide a wide range of educational experiences by changing the components of one or more categories dependent upon what the teacher wants to occur during the game experience. To manipulate components and/or categories constructively involves both the teacher and students in a "games analysis process."

Table 1

Games Analysis Model Categories and Components

Players	Equipment	Movement Pattern	Organizational Pattern	Limitations	Purpose
individual	balls	running	random placement	3 outs/inning	to win
2/team	bats	jumping	circle	10 yds for 1st down	to promote cooperative behavior
3/team	sticks	hopping	columns	boundaries on field	help develop locomotor skills
4/team	gloves	skipping	double circles	5 min/quarter	promotes problem solving behavior
5/team	hoops	walking	files	tag below waist	aids in eye-hand coordination
six on one team, four on another	plastic bottles	galloping	double columns	only 5 players per team	helps develop self concept
even number on one team, odd number on other	ropes	kicking	staggered file	4 downs to make a T.D.	develop competitive spirit
???	bases	throwing	even/odd file	must dribble ball for every step taken	promotes sportsmanship
	wands	catching	diamond		develop cardiovascular fitness
	bowling pins	twisting	triangle	???	
	individual body parts	rolling	square		
		???	???		

A number of rationales have been offered for having games as part of the physical education program in elementary schools (Kirchner, 1974; Mauldon & Redfern, 1970; Mosston, 1966). The following are the most quoted reasons for including games in a school setting:

1. Games promote the socialization process.
2. Games aid in the development of motor skills.
3. Games help develop emotional understanding between and within children.

Not one of these game purposes will be served in a game unless the game is structured to promote the specific behavior. Thus it is important to understand that the design of every game played promotes and elicits resultant behaviors, and if certain outcomes are desired from a game then the game must be structured accordingly and specific behaviors observed and recorded (Morris, 1976).

There are three major factors which underly the games analysis process: (1) allowing children the opportunity to share in decision making about the structure of the games to be played, (2) instructing children in problem solving skills via games analysis strategies, and (3) focusing on children's motor skills and designing games and movement tasks to account for the current stages of motor development by the children. Each of these major factors will be reviewed and their role in the games analysis process will be delineated.

Student Decision Making

Numerous authors have reported in the physical education literature that participating in the planning of an activity is a strong factor contributing to the overall enjoyment (Anderson, 1966; Mosston, 1966; Nutting, 1973). Martinek, Zaichkowsky, and Cheffers (1976) found that allowing children to participate in decision-making concerning a physical activity program had a positive effect on the development of motor skills and self-concept. Mancini, Cheffers, and Zaichkowsky (1975) concluded that allowing children to participate in decision-making in a human movement program facilitated peer interaction and interaction with the teacher.

According to Piaget (1965), Sutton-Smith (1971), and Loy and Ingham (1973) children's ability to make decisions concerning game structure both emotionally and socially undergoes a developmental process. Helanko (1957) developed a table of game socialization stages. Children five to six years of age regard game rules as sacred and absolute and exhibit a great deal of egocentric behavior. Thus to try to teach group decision-making skills concerning the design of a game is difficult. By ages seven to nine, children begin to exhibit cooperative behavior, game rules need not be absolute, and game decision-making skills can be introduced. By the ages of 10 to 12, children are capable of handling complex social interactions involving cooperation and competition. Rules are regarded as relative.

According to Helanko (1957), this is the age to teach decision-making skills to deal with social and emotional reactions and conflicts that develop due to game design.

In the games analysis process students are given an opportunity to make decisions when the teacher allows the students to change the structure of the game to meet the motoric, emotional, or social needs of an individual youngster or a group of youngsters. By allowing the youngsters to change or manipulate one or more of the components within a given category or categories, the decision-making process contributes to the children feeling that they have some control over their environment. Decision-making allows children a feeling of security with the game world (Morris, 1976; Mosston, 1966).

Morris (1976) has developed a hierarchy for decision-making responsibility in students.

> Initially the teacher controls the game environment by making all of the decisions about the game for all of the youngsters. When game structure decisions are gradually relinquished to the youngsters in a prescribed manner the youngsters learn how complex game design is, how one game category relates to another, and how to deal with the responsibility that accompanies any decision making process . . . . At all grade levels, 3-12, it is suggested that the students first be allowed to alter the type of movement employed during the game. Next allow them to change the number of players per team; follow this by allowing them to alter, adjust, or change the equipment or change the type of equipment being used. (pp. 19-20)

Giving children the opportunity to make decisions prevents the game structure from automatically excluding children due to

movement or coordination problems. Morris (1976), Cratty (1967, 1969, 1970), Smoot (1974), and Mosston (1966) have commented that children of all ages compensate for movement and motoric difficulties with inappropriate social behavior such as social withdrawal, aggression, or clowning. Utilizing the decision-making process in games analysis the teacher can intervene by asking the child or the group to change the game. Morris (1976) reports that both decision-making strategies have been employed with children from grade three to grade 12 with a high degree of success as measured by improved emotional control and socially appropriate behavior.

Problem-Solving Skills

Problem solving is considered the highest level of interpersonal development (Spivack & Shure, 1974). Some recent studies have focused attention on the relationship between interpersonal problem solving and social adjustment, although they are few in number. Shure and Spivack (1972) and Shure, Spivack, and Jaeger (1971) examined how specific aspects of problem solving ability relate to behavioral adjustment among five year old children. In the results of these studies it was delineated that cognitive problem-solving skills were distinctly superior among those judged adjusted in social interaction. Those children judged socially inhibited were not able to think through ways to solve typical problems successfully. These

studies support the hypothesis that one should be able to enhance the social adjustment of young children if one can enhance their ability to see a human problem, their appreciation of different ways of handling it, and their sensitivity to the potential consequences of what they do.

Interpersonal problems are constantly developing in physical education settings when youngsters are participating in games. Children must constantly deal with the analysis of the other teams' weaknesses or strengths. Children must be able to adapt to any change within their play environment.

Interpersonal problem solving through games analysis requires both physical and cognitive involvement. According to Morris (1976) a major consideration is that the games analysis approach not only can provide opportunities for individuals to seek solutions to stated problems, but more important, involves the student in the process of asking questions and defining problems. It is this unique characteristic of developing and cultivating the ability to independently discover and design new problems which is the essence of games analysis.

Morris (1976) pointed out that by utilizing problem solving all children can experience some degree of success within the game situation. Incorrect responses are not criticized but serve as a contribution to the basic learning situation. Each child is allowed to make decisions concerning game design based upon self-evaluation, knowledge, skills, and attitude. In problem solving the focus is not upon accepted standards of movement but

rather on the ability to manipulate game components to accomodate the needs of an individual child or a group of children. Through creative game design students begin to understand the relationships among categories within a game structure. The students soon realize why it is necessary to have rules, how a change in one category affects the design of another category, how within a game there is a place for everyone's abilities, and, most importantly, how differences in physical abilities make one feel good or bad about oneself (Morris, 1976).

Assessment of Motor Skills

Assessment is used for diagnosis and prescription of movement behavior. An assessment tool provides the teacher with information which identifies why a child is behaving in a certain way, and from this the teacher should be able to provide the children with helpful information as to how they can improve their motor performance.

A simple assessment tool called a movement profile sheet indicates what each child's ability is in certain motor behaviors. Developed by Morris (1976) the movement profile is based on a task and factor analysis format. Table 2 contains a sample motor profile as provided by Morris (1976) which he employed to analyze and demonstrate the striking ability a student has displayed while considering the interaction of two factors--striking implement and size of the object being struck. This profile sheet indicates to the teacher which of the two factors under

investigation influenced this particular child's striking ability. By observation, the striking implement seems to be the more limiting factor of the two because the student was able to strike all the sizes of the object but could only strike with a hand or paddle. This information is important for the teacher because it explains why a child demonstrates a particular kind of motor performance. Thus, in a game design this particular child should be allowed to use a hand or a paddle to strike. It is highly probable if he/she uses a bat he/she will not be successful.

Table 2

Movement Profile #1

	S_1	S_2	S_3	S_4
I_1	Succeeded on 1-8-76	Succeeded on 1-9-76	Succeeded on 1-17-76	Succeeded on 1-23-76
I_2	Tried but failed 1-8-76	Succeeded on 1-10-76	Succeeded on 1-22-76	Failed on 1-23-76
I_3	Tried but failed 1-8-76	Tried but failed 1-10-76	Tried but failed 1-22-76	Failed on 1-23-76
I_4				Failed on 1-23-76

S = size of object
S_1 = 12" balloon
S_2 = 10' plastic beach ball
S_3 = 8" rubber ball
S_4 = 4" rubber ball

I = striking implement
I_1 = hand
I_2 = paddle
I_3 = racquet
I_4 = whiffle ball

(p. 56)

When assessing a motor skill, the teacher needs to be cognizant of all the factor interactions. Morris (1976) identifies the following factors that affect the motor behaviors of striking, catching, kicking, and throwing.

1. Size of object.
2. Color of object.
3. Trajectory of object.
4. Weight of object.
5. Speed of object.
6. Color of background.
7. Anticipation location.
8. Texture of object.
9. Illumination level.
10. Illumination type.
11. Object direction in flight relative to performer.
12. Speed of performance by student.

Movement profiles may be easily designed in order to assess the various factor interactions. Morris (1976) provides examples of movement profiles on kicking and the interaction of size of object and weight of object, and on catching and the interaction of texture of object with angle of trajection. These appear in Tables 3 and 4.

The purpose of the movement profiles is to determine each child's current movement status, to assess the factors that most affect each child's performance, and to offer direction for the

Table 3

Movement Profile #2

Kicking Profile Sheet

Size of Object (S) Weight of Object (W)

Easy----------Difficult

	S_1	S_2	S_3	S_4
Easy				
W_1				
W_2				
W_3				
W_4				
Difficult				

W_1 = 6 oz. ball
W_2 = 8 oz. ball
W_3 = 12 oz. ball
W_4 = 16 oz. ball
S_1 = largest ball - 18" diameter
S_2 = large ball - 14" diameter
S_3 = small ball - 12" diameter
S_4 = smallest ball - 8" diameter

(p. 64)

Table 4

Movement Profile #3

Catching Profile Sheet

Texture of Object (T) Angle of Trajection (A)

Easy----------Difficult

	T_1	T_2	T_3	T_4
A_1				
A_2				
A_3				

T_1 = fleece ball
T_2 = nerf ball
T_3 = nylon ball
T_4 = whiffle ball
A_1 = horizontal plane
A_2 = vertical plane
A_3 = ball travels in arc

(p. 64)

teaching of the motor behavior. The profile concept is for individual analysis rather than individual comparison to group standing and the teacher uses the profile sheet to assess the children's progress.

Morris (1976) pointed out that games analysis can incorporate the task analysis concept quite easily. A teacher can design a series of games that allows for progressive improvement in specified motor behaviors by focusing upon one, two, three, or more factors that affect the said motor behaviors. Table 5 illustrates how to apply the motor profile information to the games analysis grid. By referring to the children's profile sheets the teacher can design games appropriate to their movement needs and skills.

From the profile sheets information, the teacher can develop lead-up games which are games that lead into the traditional game. If the teacher is going to teach children the game of football, the teacher should not expect the children to be able to play the game efficiently on the very first day. Rather the teacher develops over a period of days the skills necessary to play football. Thus, the teacher instructs the children in lead-up games that promote the development of the skills necessary to play football.

First, the teacher decides on the terminal game objective in terms of skills requirement and concept involvement. The teacher then writes behavioral objectives for the day's lesson. The teacher then writes the game into the grid. Next, the

Table 5

Application of Profile Information to Games Grid

Game	Players	Organizational Pattern	Equipment	Movement	Limitations	Purpose
1	3/team	Random	Kicking--S_1 W_1 Catching--T_1	Kicking--Toe Kick Catching--A_1	Teacher Designed	Developing catching and kicking skills
2			Kicking--S_2 W_2 Catching--T_2	Kicking--Same Catching--A_2		
3			Kicking--S_2 W_3 Catching--T_3	Kicking--Same Catching--A_3		
4			Kicking--S_3 W_3 Catching--T_4	Kicking--Same Catching--A_3		
5			Kicking--S_3 W_4 Catching--T_4	Kicking--Same Catching--A_3		

(p. 65)

teacher plans how and when to teach specific motor skills and game concepts. Morris (1976) provides an example of stated behavioral objectives relative to psycho-motor development (motor) and cognitive development. In addition, one can also state behavioral objectives relative to affective development.

> Unit - Football Skills and Concepts
> Objectives - Motor:
> Develop ability to pass the football a distance of 10 yards with accuracy; hand the ball off without fumbling the ball; center the ball with accuracy a distance of 5 feet; punt the football with accuracy a distance of 15 yards; catch a thrown football 10 feet, five of ten attempts; display ability to run with the ball; demonstrate ability to screen a block.
> Objectives - Cognitive:
> Students will understand via performance the following concepts: line of scrimmage, scoring system, five running plays, five pass patterns, rules of touch football, defensive positioning, offensive positioning. (p. 28).
>
> Objectives - Affective:
> Students will participate in "huddle" strategy; will cooperate in deciding play patterns and position duties.

Then, the teacher begins to teach the motor skills and game concepts via some form of game to promote interest or move toward the terminal objective--regulation touch football. At this point, games analysis assists the teacher in designing new games or altering existing games to meet the motoric and cognitive needs of the students. Morris (1976) provided an example of a lead-up game to regulation touch football based on the preceding stated objectives (see Table 6).

Table 6

Lead-up Game

Name of Game	Players	Equipment	Movement Pattern	Organizational Pattern	Limitations	Purpose
Center Pass Relay	5 - ? team	1 ball/ team	Center pass, running	Each team is in column formation 5 ft. from one another.	The player must stay 5 ft. from another. The ball is centered from the first player to the next player. This continues until the last player receives the ball. He then runs to front of line, line moves back one player. First team to return to original start position is the winner.	To develop center pass skill. To promote team cooperation. To combine center pass with running the ball.

(p. 29)

In summary, games analysis is predicated on the notion that teachers need to understand the relationships between game designs and behavioral outcomes if they want each child to develop to his or to her capacity within a game environment. If specific social, emotional, and motoric behaviors are to be developed, then the game must be structured to promote the specific behaviors. Games analysis is a process the teacher can utilize in structuring games.

Summary

After a review of the literature that is relevant to the question of the efficacy of the games analysis method in increasing the acceptance and adjustment of socially isolated children, a number of conclusions logically follow. First, while Morris (1976) has presented anecdotal reports of the efficacy of the games analysis method in promoting the social development of socially isolated children, there are no studies which have employed even minimal standards of experimental control and rigor in investigating the games analysis method as a treatment for socially isolated children. Second, a study needs to be undertaken that will experimentally investigate the efficacy of the games analysis method in promoting the social development of socially isolated children. To meet this need this study was undertaken to experimentally explore the efficacy

of the games analysis method in increasing the acceptance and adjustment of socially isolated children.

CHAPTER III

METHOD AND PROCEDURES

In Chapter III, the methods and procedures used in the study will be presented. This chapter is divided into three sections; description of subjects and their selection, description of materials, and description of procedures, including the experimental design and instrumentation.

Subjects

The subjects for this study were 14 fifth grade public elementary school students. Nine of the subjects were ten years old and five subjects were 11 years of age. Eight of the subjects were males of whom four were black, three were white, and one was American Indian. Six of the subjects were female of whom three were black and three were white. (See Appendix A for a further description of the subjects.)

Pretraining Sociometric Assessment

A roster-and-rating sociometric questionnaire was administered in each of three fifth grade classrooms by the researcher

who introduced himself as someone who was interested in learning about how children play together in school. Children rated each other in answer to the question, "How much do you like to play with _____ at school?" The rating scale consisted of five points with 1 being "I don't like to" and 5 being "I like to a lot." Children were taught how to use the scale and examples of play situations in school were suggested. Children were provided with five point scales with faces above each point ranging from a frown to a happy face. (See Appendix B for a sample questionnaire.)

The roster-and-rating sociometric questionnaire has been found to correlate highly with peer-nomination measures (Justman & Wrightstone, 1951; Young, 1947); it has two particularly attractive features compared with the peer nomination sociometric measure. First, the classroom roster decreases the likelihood of a person not being chosen because he or she was momentarily forgotten. Second, the method provides an indication of the child's acceptance by all of the group members since each child is rated by all of his or her classmates.

The "play with" sociometric questionnaire was administered to assess the peer acceptance of the fifth grade children. One measure was obtained for each child from the sociometric questionnaire; a "play" rating based on the average rating received from other children. For the purposes of this study measures were based on same-sex ratings or nominations since

fifth grade children typically give low ratings to opposite-sex peers (Criswell, 1939).

Selection of Subjects

Selection of least preferred children (social isolates) and seven other participants was based on the mean ratings received from classmates on the "play with" sociometric measure. The two least preferred children of each sex in each of the three fifth grade classrooms were grouped together for a total of 12 children. Seven of these children were chosen randomly for the study by shuffling cards containing their names. Moderately preferred peers were selected to form a second group for the study. Seven of the third through eighth most frequently preferred children of the same sex as the isolated children were randomly chosen from the three classrooms as participants for the games sessions by shuffling cards containing their names. Selection of subjects resulted in seven moderately preferred children and seven least preferred children.

Materials

The variety of developmental motor equipment used in the study was included to reflect the individual motor needs of the children. Equipment used by the children in various games played were:

1. Hula hoops,
2. Bean bags,

3. Playground balls (various diameters),
4. Soccer balls,
5. Volleyballs, nets, and ropes,
6. Beachballs (various diameters),
7. Nerfballs,
8. Plastic balls,
9. Softballs (various colors),
10. Whiffle balls,
11. Softball bats, bases, and gloves,
12. Plastic bats,
13. Tennis rackets,
14. Batting tee,
15. Bowling pins, and
16. Basketballs and basketball goals.

The actual extent to which these were used will be described in detail later.

Experimental Procedures

Experimental Design

The experimental design for this study was a variant of the A-B-A design (Sulzer & Mayer, 1972). It is described as an A-B-A-B single subject reversal design (Holland & Skinner, 1961) with two replications for each subject. The design phases are summarized as follows:

A = traditional games played by children (i.e., baseline)

B = games played by children designed via games analysis model (i.e., intervention)

The data were collected according to the following schedule:

Number of Experimental Sessions (Days)

Phase	Sessions
A_1	1 - 5
B_1	6 - 14
A_2	15 - 18
B_2	19 - 22

The data collection involved a period of five weeks.

This design was selected for use in this study for three major reasons; (1) it facilitates direct measurement over time of specified observable behaviors (Sulzer & Mayer, 1972), (2) it allows the researcher to demonstrate experimental control if the behavior changes only at the point when the treatment is introduced (Risley & Baer, 1973), and (3) reversal strategies can be employed with an individual subject (Sidman, 1960).

First Phase A

The children played traditional games such as softball, kickball, basketball, and volleyball according to regulation rules. The effects of various factors (e.g., size of object) on the children's movement skills were observed by the instructor. (See Appendix D for a further description of the games played.)

First Phase B

The children were introduced to and trained in the games analysis model. They were instructed in the decision making and problem solving skills needed to adapt and design games via the games analysis process. Utilizing his observations of the motor skills of the children, the instructor designed games for the children to play which accounted for their current stages of motor development. The games played were then adapted and changed by the instructor and/or students during the games sessions to meet the specific social, emotional, and/or motor needs of an individual or a group of individuals. (See Appendix D for a further description of the games played.)

Second Phase A

The children played traditional games according to regulation rules. Softball, volleyball, kickball, and basketball were played (see Appendix D).

Second Phase B

The children played games designed via the games analysis model. The designs of the games reflected the individual needs of the children (see Appendix D).

Behavioral Assessment

The playground behavior of each socially isolated child was observed and coded every tenth second for 18 consecutive ten second intervals on a daily basis for 22 games sessions. Two

types of behavior were coded each time data were collected, task participation and social orientation. Task participation referred to whether or not the child was participating in the activity. Since 18 observations were made per games session, scores could range from zero to 18. Social orientation referred to the type of social behavior which the child exhibited every tenth second. The observer could select one of four mutually exclusive categories to code the behavior; (a) peer oriented/supportive, that is, behavior toward peers which was socially appropriate (looking, touching, or talking in a neutral way toward playground members) or supportive (smiling at or being helpful toward playground members); (b) uncommunicative/ignoring, that is, behavior toward playground members which was uncommunicative (not looking, touching, or talking to playground members) or ignoring (looking away, turned away from playground members); (c) uncooperative/rejecting behavior, that is, behavior toward playground members which was uncooperative (bullying playground members, hogging materials) or antisocial (name-calling, making mean faces at playground members); and (d) other, that is, behavior in response to outside noise or distraction. For each games session, the frequency total for each category could range from zero to 18. (See Appendix C.)

The frequencies obtained in this study were evaluated according to experimental criterion (Risley, 1970). The experimental criterion refers to a comparison between behavior

during the intervention with what it would be if the intervention had not been implemented.

The following procedures were employed to satisfy the experimental criterion. Baseline data were collected and served as a basis for determining the present level of behavior and predicting what behavior would be without the intervention. The experimental method was introduced to reveal a change from this projected performance. The reliability of a finding according to experimental criteria was achieved by "replicating" the baseline level of performance and a different level of performance during intervention, as shown in the A-B-A-B design employed in this study.

In practice, there were a few ways in which results clearly met the experimental criterion. First, performance during the treatment intervention when plotted could not overlap with performance during baseline. The data points of baseline could not extend to the levels achieved by the data points during the intervention. If this non-overlapping design were replicated over time with a given subject (A-B-A-B design), there would be little question that the results were reliable (Risley, 1970). Second, a more common criterion for experimental evaluation was related to divergent slopes in baseline and treatment phases but was less stringent than completely non-overlapping distributions. This criterion emphasized the trends or slopes in each phase. Usually the baseline phase showed a relatively stable performance rate with no particular trend. When treatment was implemented,

usually a definite trend was evident indicating that behavior was changing from baseline. If baseline conditions were reinstated, the trend was likely to be in the opposite direction of the intervention. By alternating baseline and experimental phases, systematic changes in trend comprised strong evidence for the experimental reliability of the effect (Risley, 1970).

Observers

The data collectors were two female graduate students in the Department of Special Education of the College of Education at the University of Florida. The data collectors were trained to be behavioral observers by the researcher during a pre-experimental training period. The specific skills the observers acquired during the pre-experimental training sessions included (1) a thorough understanding of the operational definitions of the dependent variables, (2) accurate observations of the dependent variables, (3) facility with the recording form, and (4) facility with the stopwatch.

Interrater reliability was based on the percentage of total agreements out of the total observations for each of the pre-experimental games sessions during which the observers recorded data on children. At each tenth-second observation point agreement between observers only counted when both assessments of participation and social orientation behavior were in agreement.

The minimum requirement for observer reliability was 86%, as suggested by Risley (1970). The two observers were trained to a range of 92%-100% per games session prior to the experiment. The observers were not informed of the peer status of the game participants. One graduate student served as the principle observer of all the children's game sessions and the other graduate student was employed to provide random reliability checks on two different occasions distributed throughout the study. Their percentage of agreements for each play session ranged from 98% to 100% with an average reliability of 99%. The observers' naivete as to the peer acceptance status of the children was verified by a post-experimental check.

Post-Experimental Sociometric Assessment

The experimental phase lasted for a period of approximately five weeks. The interval between the end of the experimental phase and the administration of the post-experimental assessment was 20 days. On the 21st day the "play with" sociometric questionnaire was again administered in each of the three fifth grade classrooms by the same person who administered the pre-test.

Data

Two types of data were used in this study. First, frequency, the number of occurrences of a given behavior emitted by an

individual, was the datum for the behaviors of "task participation," "peer-oriented/supportive," "uncommunicative/ignoring," and "uncooperative/rejecting." Second, sociometric play rating scores, the average "play with" rating received from same-sex classmates, was the datum for peer acceptance.

CHAPTER IV

RESULTS

In Chapter IV, the results of the study will be presented. This chapter is divided into two sections; presentation of the results of the experimental analysis of the social behaviors of the socially isolated children during the games sessions and presentation of the pretest and posttest sociometric ratings of (1) socially isolated children who participated in the study, (2) socially isolated children who did not participate in the study, and (3) moderately-liked children who participated in the study.

Experimental Analysis of Single Case Subjects

In this section the social behavioral data collected on the socially isolated children will be presented. Phase means and ranges for task participation and social orientation behaviors during both baseline and intervention phases are delineated. The data points of these subjects are analyzed according to experimental criterion.

Subject 1: C.F.

During the initial baseline phase (A1) C.F.'s task participation ranged from 14-16 for the 18 ten-second interval recordings

per observation period with a phase mean of 14.5. Supportive behaviors ranged from 12-15 with a phase mean of 12.8. Uncommunicative behaviors ranged from 2-4 with a phase mean of 2.8. Rejecting behaviors ranged from 1-4 with a phase mean of 2.4.

When treatment was implemented (B1) task participation and supportive behaviors increased (means = 17.4 and 17.3, ranges = 14-18 and 14-18). Uncommunicative behaviors decreased (mean = 0.7, range = 0-4), while no rejecting behaviors were recorded during the B1 phase.

When baseline conditions were reinstituted (A2) task participation and supportive behaviors decreased (means = 13.50 and 13.25, ranges = 12-15 and 12-16). Uncommunicative and rejecting behaviors increased (means = 3.25 and 1.5, ranges = 2-4 and 2-3).

Reinstatement of treatment (B2) led to task participation and supportive behaviors increasing (means = 18.0 and 17.7, ranges = 18-18 and 17-18). Uncommunicative behaviors decreased from the first day under phase B2 (mean = 0.25, range = 0-1). No rejecting behaviors were recorded during this phase.

Through visual inspection of C.F.'s daily data in Figure 1, an upward trend was evident in task participation and supportive behaviors while a downward trend was evident in uncommunicative behaviors during phases B1 and B2. At no time did C.F.'s data points during A1 and A2 for rejecting behaviors extend to the levels of the data points during B1 and B2. These systematic changes in trend are evidence of the reliability of the treatment effect.

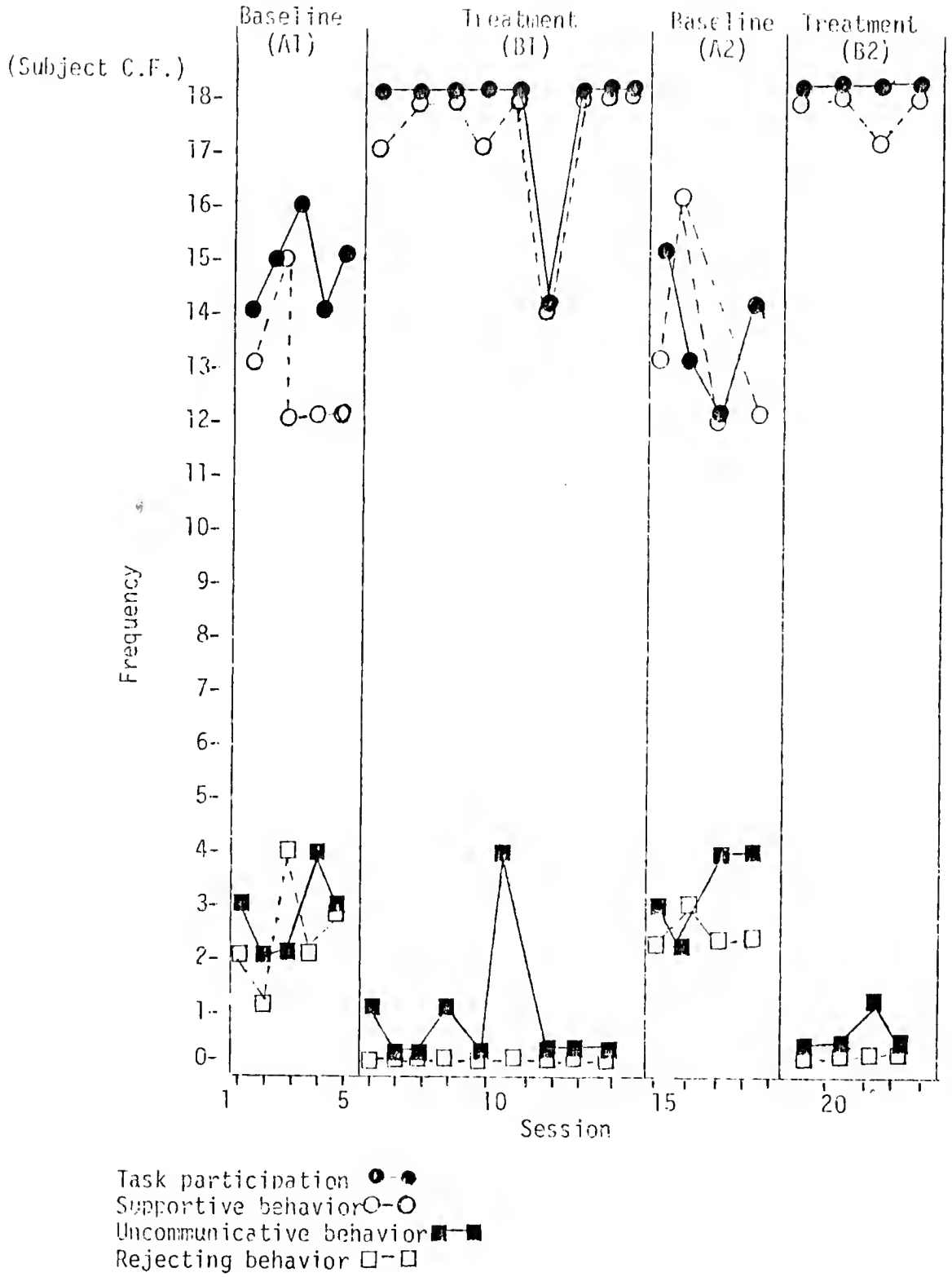

Figure 1

Occurrences of Various Pupil Behaviors
In Relation to Games Played

Subject 2: D.O.

As presented in Figure 2, D.O.'s task participation during A1 ranged from 11-14 with a phase mean of 12.4. Supportive behaviors ranged from 11-15 with a phase mean of 12.6. Uncommunicative behaviors ranged from 0-5 with a phase mean of 2.6. Rejecting behaviors ranged from 0-6 with a phase mean of 3.0.

Implementation of treatment (B1) resulted in task participation and supportive behaviors increasing (means = 17.5 and 17.7, ranges = 16-18 and 17-18). Uncommunicative behaviors decreased (mean = 0.33, range = 0-1) while no rejecting behaviors were recorded throughout the nine day B1 phase.

Withdrawal of treatment (A2) led to task participation and supportive behaviors decreasing (means = 15.0 and 15.75, ranges = 12-18 and 14-18). Under A2 conditions uncommunicative and rejecting behaviors increased (means = 1.7 and 1.0, ranges = 0-3 and 0-2).

Reinstatement of treatment (B2) resulted in task participation and supportive behaviors increasing (means = 18.0 and 18.0, ranges = 18-18 and 18-18). No uncommunicative nor rejecting behaviors were recorded throughout the B2 phase.

Through visual inspection of D.O.'s daily data in Figure 2, under B1 and B2, an upward trend in task participation and supportive behaviors was evident while a downward trend was evident in uncommunicative and rejecting behaviors. These systematic changes in trend suggest the experimental reliability of the treatment effect.

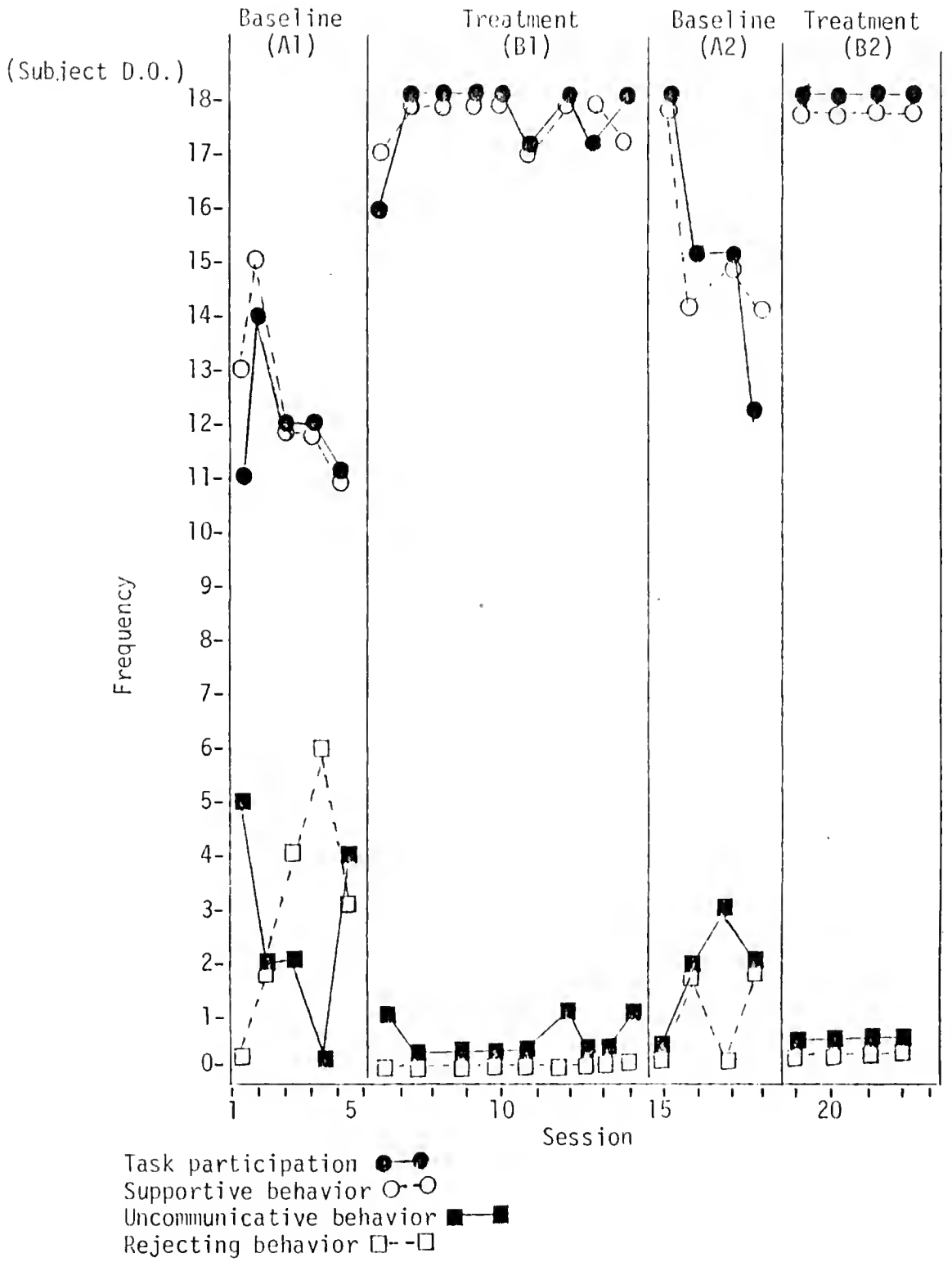

Figure 2

Occurrences of Various Pupil Behaviors
In Relation to Games Played

Subject 3: K.K.

During phase A1 K.K.'s task participation ranged from 11-13 with a phase mean of 12.0. Supportive behaviors ranged from 10-12 with a phase mean of 10.8. Uncommunicative behaviors ranged from 4-7 with a phase mean of 5.6. Rejecting behaviors ranged from 0-6 with a phase mean of 1.2. Implementation of treatment in B1 resulted in task participation and supportive behaviors increasing (means = 17.1 and 17.1, ranges = 16-18 and 16-18). Uncommunicative behaviors decreased (mean = 0.9, range = 0-1) while no rejecting behaviors were recorded under B1 conditions.

Removal of treatment in A2 resulted in K.K.'s task participation and supportive behaviors declining (means = 10.25 and 9.0). Uncommunicative and rejecting behaviors increased (means = 8.5 and 0.75, ranges = 6-13 and 0-2).

Reinstitution of treatment in B2 led to task participation and supportive behaviors increasing (means = 18.0 and 18.0, ranges = 18-18 and 18-18). No uncommunicative behaviors were recorded under B2 conditions, while rejecting behaviors decreased (mean = 0.25, range = 0-1).

As presented in Figure 3, at no time did K.K.'s data points during A1 and A2 for the measures of task participation and supportive and uncommunicative behaviors extend to the levels of the data points during B1 and B2. These non-overlapping distributions are evidence of the treatment's effect on these dependent measures. Although K.K. emitted a low frequency of

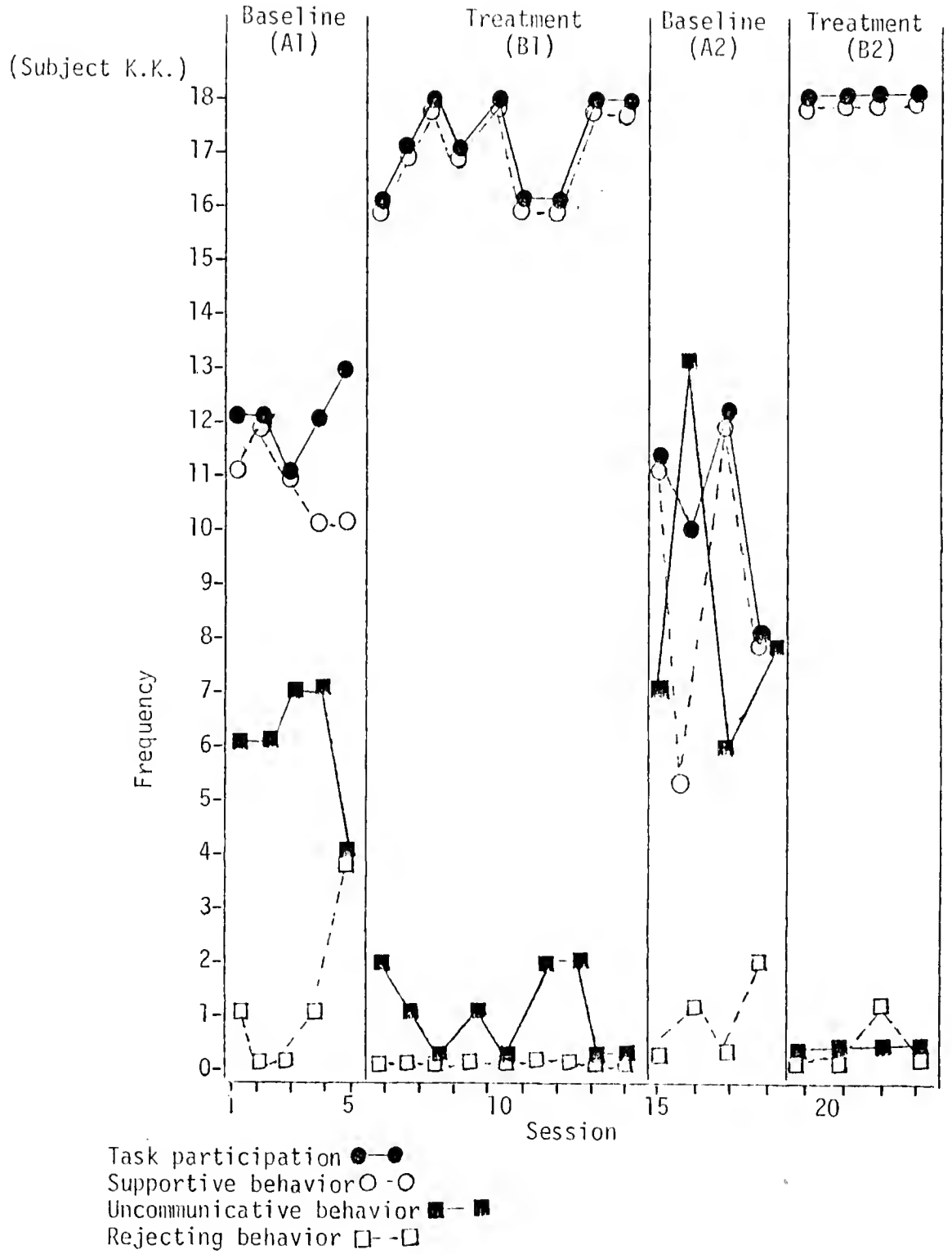

Figure 3

Occurrences of Various Pupil Behaviors
In Relation to Games Played

rejecting behavior during A1 and A2, divergent slopes in baseline and treatment phases were present which indicate the controlling effect of the games analysis treatment on this measure.

Subject 4: S.S.

Observations of task participation during phase A1 ranged from 13-17 with a phase mean of 15.0. Supportive behaviors ranged from 11-13 with a phase mean of 12.4. Under A1 conditions, uncommunicative behaviors ranged from 5-7 with a phase mean of 5.6. No rejecting behaviors were recorded during the A1 phase.

Introduction of treatment (B1) resulted in task participation and supportive behaviors increasing (means = 17.7 and 17.5, ranges = 17-18 and 17-18). Uncommunicative behaviors decreased (mean = 0.44, range = 0-1) while no rejecting behaviors were recorded during the B1 phase.

Return to baseline conditions in phase A2 resulted in task participation and supportive behaviors dropping (means = 14.75 and 14.75, ranges = 13-18 and 13-18). Uncommunicative behaviors rose (mean = 3.75, range = 0.5), while no rejecting behaviors were recorded during the A2 phase.

Return to treatment in phase B2 resulted in task participation and supportive behaviors rising (means = 18.0 and 18.0, ranges = 18-18 and 18-18). No uncommunicative behaviors were exhibited during phase B2. As in the preceding three phases, no rejecting behaviors were exhibited.

As presented in Figure 4, during phases B1 and B2 there was an upward trend in S.S.'s task participation and supportive behaviors and a downward trend in her uncommunicative behaviors. These systematic changes in trend suggest the reliability of the treatment's effect. Because S.S. did not emit any rejecting behaviors during the experiment, no trend was evident for these behaviors.

Subject 5: M.S.

Observations of M.S.'s task participation during phase A1 ranged from 16-18 with a phase mean of 17.6. Supportive behaviors ranged from 16-17 with a phase mean of 16.6. No uncommunicative behaviors were exhibited, while rejecting behaviors ranged from 1-2 with a phase mean of 1.4.

Implementation of treatment resulted in task participation and supportive behaviors increasing (means = 17.9 and 17.3, ranges = 17-18 and 17-18). As in phase A1, no uncommunicative behaviors were exhibited during phase B1. Rejecting behaviors decreased (mean = 0.11, range = 0-1).

Return to baseline conditions in phase A2 led to task participation and supportive behaviors decreasing (means = 17.5 and 15.75, ranges = 16-18 and 15-16). Only one uncommunicative behavior was exhibited during phase A2 while rejecting behaviors increased (mean = 2.0, range = 2-2).

Reinstitution of treatment (B2) resulted in task participation and supportive behaviors increasing (means = 18.0 and 18.0),

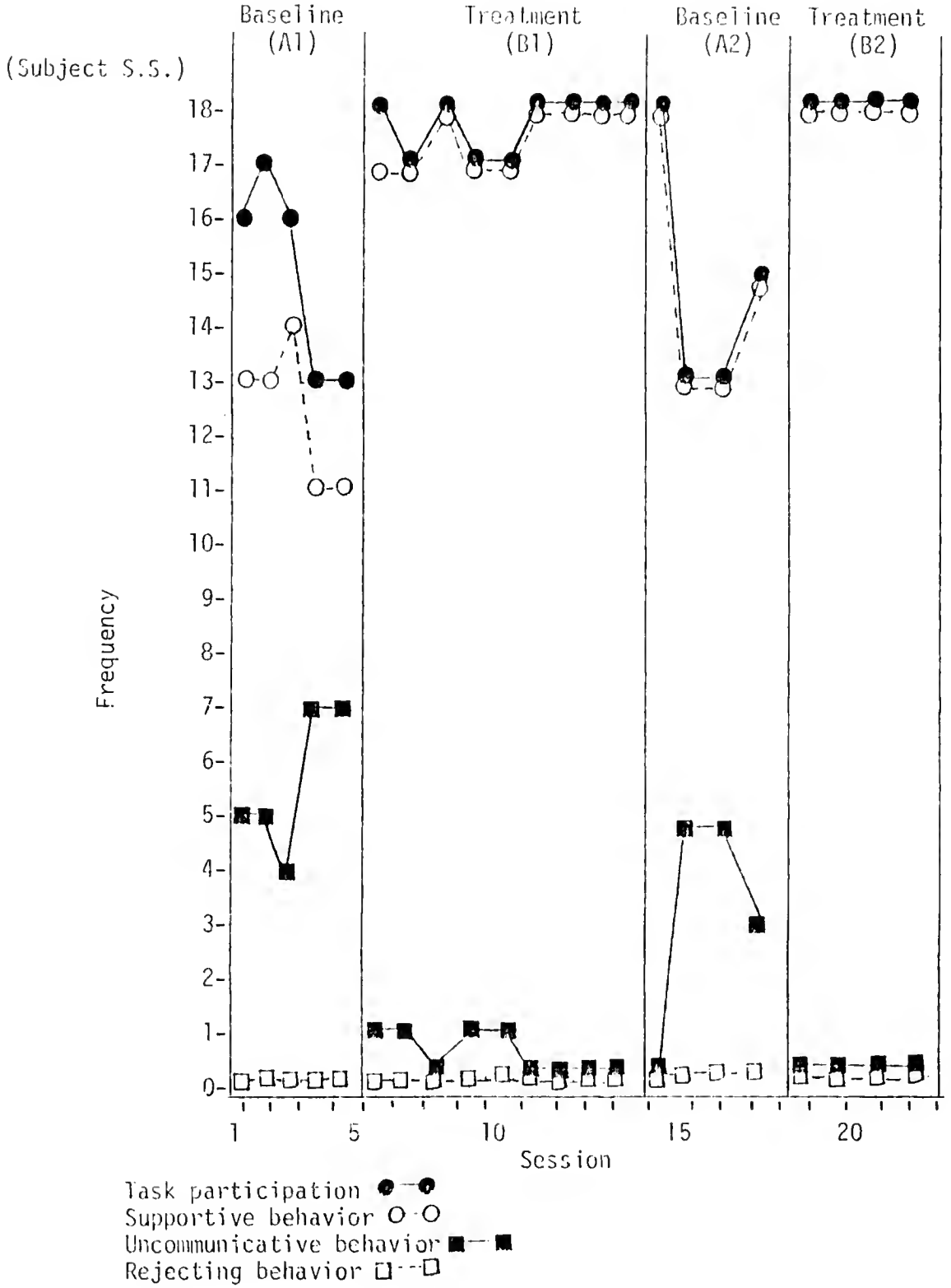

Figure 4

Occurrences of Various Pupil Behaviors
In Relation to Games Played

ranges = 18-18 and 18-18). No uncommunicative nor rejecting behaviors were exhibited during phase B2.

As presented in Figure 5, during phases B1 and B2, there was an upward trend in task participation and supportive behaviors; however, because his data points were recorded at such high levels for these dependent measures throughout both sets of A and B phases, no conclusion as to the experimental reliability of the treatment's effect can be made. Since only one uncommunicative behavior was recorded during the experiment no interpretation of the data pattern for this dependent measure could be made. The data points for rejecting behaviors at baseline did not extend to the levels of the data points during intervention for both sets of A and B phases. Thus, application and withdrawal of the treatment suggested a controlling effect on rejecting behaviors.

Subject 6: R.G.

It was not possible to evaluate the results of R.G.'s data points due to his infrequent presence at the games sessions. His lack of attendance was attributable to two factors. First, R.G. was remiss in returning his informed consent form for participation in the study and did not receive clearance for participation until the fourth day of the A1 phase. Hence, it was not possible to record R.G.'s social behavior during the first baseline phase. Secondly, R.G. was absent from school

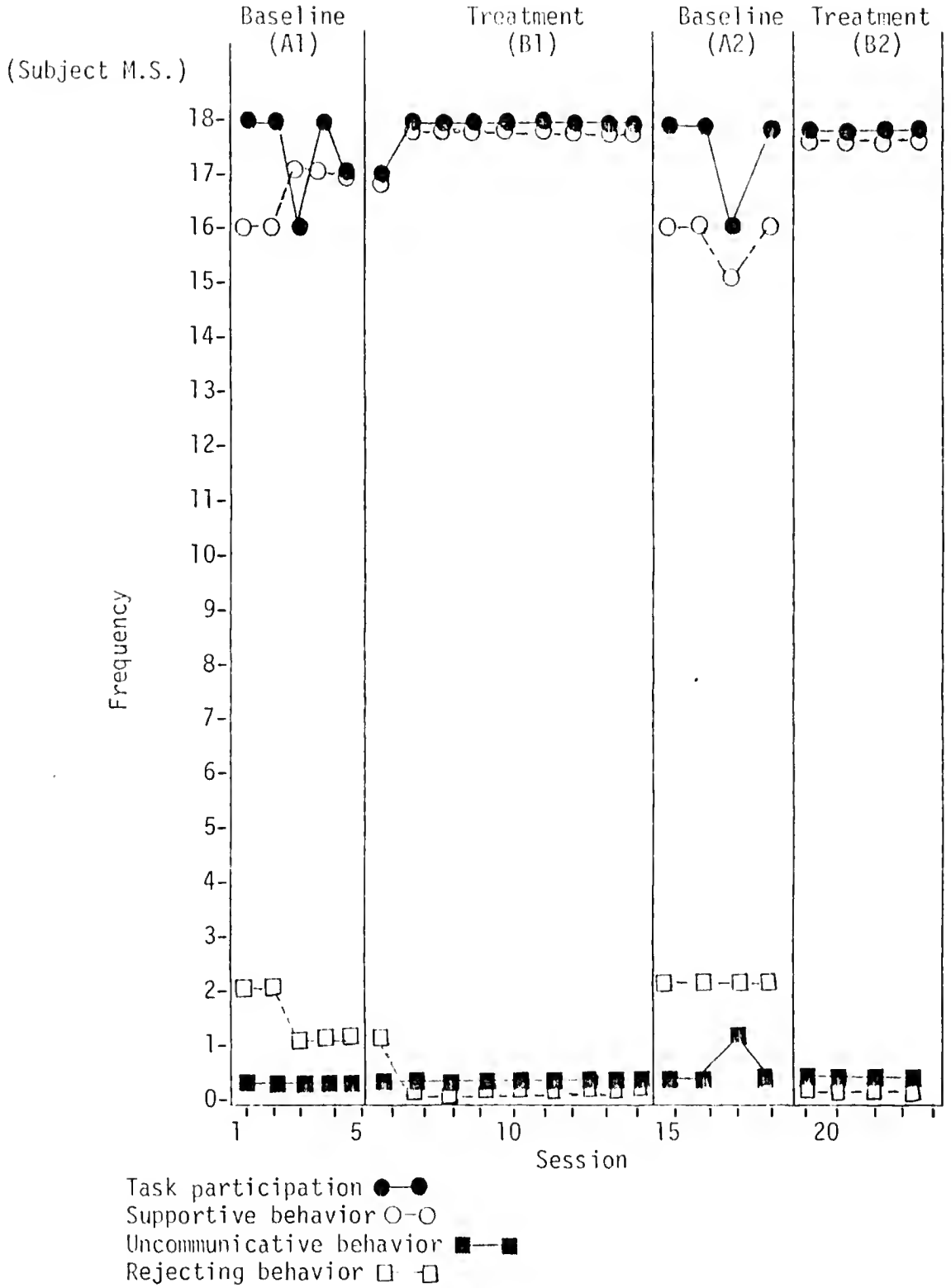

Figure 5

Occurrences of Various Pupil Behaviors
In Relation to Games Played

for seven consecutive days during the third and fourth weeks of the study. As a result, no behavioral data were collected on R.G. for the last three sessions of B1 and for the entire A2 phase. These combined absences resulted in having only one data point of R.G.'s social behaviors during the two baseline phases. Therefore, it was not possible to evaluate the treatment's effect on R.G.'s social interactions.

Despite his absences, R.G. was present for ten of the 13 sessions in which the games played were adapted and designed according to the games analysis model. R.G. expressed enjoyment in playing the games and his means for task participation and supportive behaviors during the ten sessions were 17.0 and 16.7. His means for uncommunicative behavior and rejecting behavior were recorded at 0.4 and 0.9 for the ten sessions.

Subject 7: P.C.

P.C. fractured her foot in a bicycle accident during the first week of the study and was not able to participate in the games from sessions three to 19. Therefore, it was not possible to determine the treatment's effect on P.C.'s social behavior.

Despite her injury, P.C. chose to come to the games sessions and watch from the sidelines. The instructor encouraged her to participate in the group's decision-making and problem-solving processes during the treatment phases and P.C. appeared to enjoy doing so. Hence, it was felt by the instructor that P.C.'s

"sideline" attendance was beneficial in promoting her understanding of game designs and behavioral outcomes.

Sociometric Assessment

Socially Isolated Games Participants

Pre- and post-sociogram data were analyzed in terms of mean ratings on the "play with" scale and the child's median rank among classmates of the same sex on the "play with" scale. Sociogram mean ratings could range from a low of 1.0 to a high of 5.0. The socially isolated children's mean ratings and median rank on the pre-and post-intervention sociometric assessment are presented below.

Subject	Pre Intervention $\bar{X}$	Post Intervention $\bar{X}$	Net	Pre-Median Rank Among Same-Sex Classmates	Post-Median Rank Among Same-Sex Classmates
C.F.	1.94	2.31	+.37	16th	14th
D.O.	2.78	2.92	+.14	16th	14th
K.K.	2.43	3.29	+.86	17th	10th
S.S.	2.45	3.38	+.83	14th	8th
M.S.	2.70	3.18	+.48	15th	9th
R.G.	1.65	2.16	+.51	20th	19th
P.C.	2.33	2.94	+.61	17th	15th

An analysis of the results of the posttest sociometric ratings indicated that all seven isolated children gained in peer acceptance. The isolated children received higher ratings from the classmates they interacted with in the games analysis sessions as well as classmates who did not participate in the games analysis sessions. More importantly, all seven of the isolated

children increased in their median rank among classmates of the same sex and only one subject, R.G., met the definition of being an isolated child at posttest (the two least accepted members of each sex in a classroom).

Socially Isolated Non-Participants

Pre- and post-sociogram data of the socially isolated children who did not participate in the study were also analyzed in terms of the mean ratings on the "play with" scale and the child's median rank among classmates of the same sex on the "play with scale." The results are presented below.

Subject	Pre Intervention $\bar{X}$	Post Intervention $\bar{X}$	Net	Pre-Median Rank Among Same-Sex Classmates	Post-Median Rank Among Same-Sex Classmates
V.B.	1.92	2.28	+.34	17th	16th
D.T.	2.62	2.71	+.09	16th	17th
R.J.	1.85	2.11	+.26	19th	20th
R.R.	2.13	2.47	+.34	18th	18th
T.B.	2.81	2.46	-.35	13th	14th

An analysis of the posttest sociometric ratings indicated that four of the five socially isolated children received higher mean ratings from same-sex classmates at posttest; however, four of these children, D.T., R.J., T.B., and R.R., were ranked at posttest as the least accepted children among same-sex peers in their classrooms. V.B. increased one rank among his same-sex classmates, at posttest, but his median rank position still met the definition of his being a socially isolated child. Hence, all five socially isolated children who did not participate in the games sessions remained socially isolated children at posttest.

Moderately-Preferred Games Participants

Pre- and post-sociogram data on the moderately preferred children, who participated in the games sessions, were also analyzed in terms of mean ratings on the "play with" scale and the child's median rank among classmates of the same sex on the "play with" scale. The results are presented below.

Subject	Pre Intervention $\bar{X}$	Post Intervention $\bar{X}$	Net	Pre-Median Rank Among Same-Sex Classmates	Post-Median Rank Among Same Sex-Classmates
M.Z.	3.94	4.00	+.06	3rd	1st
A.C.	3.50	3.72	+.22	7th	7th
D.T.	3.50	3.83	+.33	7th	5th
C.M.	4.57	4.18	-.39	5th	5th
S.J.	4.00	4.21	+.21	8th	5th
T.N.	3.66	3.73	+.07	6th	6th
G.H.	4.07	3.84	-.23	3rd	7th

An analysis of the posttest sociometric ratings indicated that five of the seven moderately preferred children gained in mean ratings at posttest. Three of the children gained in their median rank among same-sex classmates, three children remained at the same median rank, and one child dropped in her median rank. Six of the seven moderately preferred children met the definition of being a moderately preferred child at posttest (the third through eighth highest children of the same sex in a classroom), while one child, M.Z., was the highest rated child among same sex peers in his classroom at posttest.

In summary, the analysis of the pre- and post-sociogram data on the three groups of children indicated that all of the games

analysis trained socially isolated children gained in their median rank among same-sex classmates. These gains ranged from one to seven median rank positions with an average gain of 3.5 positions. Of the socially isolated children who did not receive training, one child gained one rank position, three children dropped one rank position, and one child retained the same rank position. The effect of the treatment on the moderately preferred children was ambiguous. Three of the children gained in their rank positions, three of the children retained the same rank position, and one child dropped in her rank position. No child in the moderately preferred group gained or loss more than four positions.

CHAPTER V

DISCUSSION

Children who are socially isolated from their peers have become the subject of increased clinical concern in recent years (Strain, Cooke, & Apolloni, 1976); however, procedures for modifying social isolation have not been generally successful (Lilly, 1971; Rucker & Vincenzo, 1970). Evidence of a relationship between social isolation and deficient play and game skills has appeared in child development literature (Ausbel, 1958; Whitman, 1970). If the games analysis treatment were proven to be an effective treatment, there would be important educational, as well as psychological, implications. For these reasons this study was designed to examine the efficacy of the games analysis treatment in promoting positive changes in isolated children's peer acceptance and social adjustment.

Discussion and Implications

Discussions of three major areas are presented in the following sections. The first area contains a presentation of a summary discussion of the findings of the study and an interpretation of those findings. The second major area is a

discussion of the problem and limitations that were encountered during the course of the study. The third area includes a discussion of the implications of the study for the practitioner.

Findings

The analysis of the data that were collected relative to the five experimental questions of the study resulted in five major findings. The five experimental questions are listed below with a subsequent presentation of the data relevant to each question and the conclusions those data allow to be drawn.

1. Will the games analysis intervention increase the peer acceptance of socially isolated children?

The results on the analysis of the "play with" sociometric ratings at posttest indicated that each of the seven isolated children made positive gains in peer acceptance. The positive gains achieved ranged +.14 to +.86 with the group's mean gain being +.54. More importantly, each of the seven isolated children achieved sociometric gains in their median ranks among same-sex classmates. The median rank gains achieved ranged from a gain of one rank to a gain of seven ranks with the group averaging a gain of 3.5 rank positions. As a result of these gains only one of the isolated children at posttest met the definition of being a socially isolated child (the two least accepted children of each sex in a classroom).

All five socially isolated children who did not receive games analysis training remained socially isolated children at

the sociometric posttest. Four of these children received the lowest median rank among their same-sex classmates, while the other child received the second lowest median rank among his same-sex classmates.

Given the above data, it may be concluded that the games analysis intervention increased the peer acceptance of the socially isolated children in this study. The positive changes in sociometric mean ratings and median ranks for the socially isolated children who received games analysis training suggest the treatment's effectiveness.

2. Will the games analysis intervention increase the task participation of socially isolated children?

The application and withdrawal of the games analysis treatment resulted in a controlling effect on task participation for four of the five isolated subjects. Its effect on the fifth subject was not reliable due to the subject's high frequency of task participation throughout both baseline and intervention phases.

For C.F. the frequencies of task participation were 20% and 31% higher in B1 and B2 than in the immediately preceding non-treatment phases. D.O.'s rates of task participation were 41% and 20% higher in B1 and B2 than in the immediately preceding non-treatment phases. K.K.'s frequencies of task participation increased 41% and 75% in B1 and B2 when compared to the immediately preceding non-treatment phases. For S.S. the

frequencies of task participation were 18% and 22% higher in B1 and B2 than in the immediately preceding A1 and A2 phases.

For M.S. the application and withdrawal of the treatment's effect on task participation was not clearly demonstrated due to M.S.'s high frequency of task participation during the non-treatment phases. Institution of treatment resulted in task participation increasing 2% and 3% in B1 and B2 when compared to the immediately preceding baseline phases.

Hence, the conclusion may be drawn that the games analysis intervention is, indeed, effective in increasing the task participation of socially isolated children in this study. The positive changes in the frequencies of task participation for four of the five subjects are evidence of the reliability of the treatment's effect.

3. Will the games analysis intervention increase the peer oriented/supportive behavior of socially isolated children?

The application and withdrawal of the games analysis treatment resulted in a controlling effect on supportive behaviors for all five of the isolated children. C.F.'s frequencies of supportive behavior were 36% and 26% higher in B1 and B2 than in the immediately preceding non-treatment phases. D.O.'s frequencies of supportive behavior were 40% and 18% higher in B1 and B2 than in the immediately preceding non-treatment phases. K.K.'s frequencies of supportive behavior were 58% and 94% higher in B1 and B2 than in immediately preceding non-treatment phases. S.S.'s frequencies of supportive behavior were 41% and 22% higher

in B1 and B2 than in the immediately preceding baseline phases. Finally, M.S.'s frequencies of supportive behaviors were 4% and 14% higher in B1 and B2 than in the preceding non-treatment phases.

Hence, it may be concluded that the games analysis intervention is, indeed, effective in increasing the supportive behavior of socially isolated children in this study. The positive changes in the frequencies of supportive behavior for all five subjects are evidence of the reliability of the treatment's effect.

4. Will the games analysis intervention decrease the uncommunicative/ignoring behavior of socially isolated children?

The implementation and removal of the games analysis treatment resulted in a controlling effect on uncommunicative behavior for four of the five isolated subjects. Its effect on the fifth subject was not demonstrated due to the subject not emitting any uncommunicative behavior during both sets of A and B phases.

For C.F. frequencies of uncommunicative behavior were 75% and 92% lower in B1 and B2 than in the immediately preceding nontreatment phases. D.O.'s emission of uncommunicative behavior was 87% and 170% lower in B1 and B2 than in the immediately preceding baseline phases. K.K.'s emission of uncommunicative behavior was decreased by implementation of treatment. Her frequencies of uncommunicative behavior were 560% and 910% lower in B1 and B2 than in the immediately preceding non-treatment

phases. For S.S. frequencies of uncommunicative behavior were 92% and 325% lower in B1 and B2 than in the immediately preceding nontreatment phases.

No interpretation of the games analysis intervention's effect on M.S.'s frequency of uncommunicative behavior could be made due to his low emission of uncommunicative behavior. Only one uncommunicative behavior was recorded during the four phases of the study.

Hence, the conclusion may be drawn that the games analysis intervention is, indeed, effective in decreasing the uncommunicative behavior of socially isolated children in this study. The changes in the frequencies of uncommunicative behavior are evidence of the reliability of the treatment's effect.

5. Will the games analysis intervention decrease the uncooperative/rejecting behavior of socially isolated children?

The application and removal of the games analysis treatment clearly led to a controlling effect on rejecting behavior for four of the five isolated subjects. Its effect on the fifth subject was not demonstrated due to the subject not emitting any rejecting behavior throughout the four phases of the study.

For C.F. frequencies of rejecting behavior decreased 240% and 150% in B1 and B2 when compared to the immediately preceding non-treatment phases. D.O.'s frequencies of rejecting behavior were 300% and 100% lower in B1 and B2 than in the immediately preceding non-treatment phases. K.K.'s frequencies of rejecting

behavior decreased 120% and 66% during B1 and B2 when compared to the immediately preceding non-treatment phases. M.S.'s frequencies of rejecting behavior were 97% and 200% lower in B1 and B2 than in the immediately preceding baseline phases. No interpretation of the treatment's effect on S.S.'s rate of rejecting behavior was possible as she did not exhibit any rejecting behavior throughout the four phases of the study.

Hence, it may be concluded that the games analysis treatment is, indeed, effective in decreasing the rejecting behavior of isolated children in this study. The positive changes in the frequencies of rejecting behavior suggest reliable treatment effects for four of the five subjects.

Interpretation of Findings

These data allow several interpretations of the findings to be made. First, the presence of a functional relationship between institution of the games analysis treatment and an increase in pro-social behaviors and a decrease in negative social behaviors was established for the subjects of this study. The magnitude of the changes in the dependent measures upon institution of the games analysis treatment is evidence for the acceptance of this conclusion. In addition to the magnitude of change, the consistency of change provides additional evidence with which to support the existence of a functional relationship. In essence, this study provides ten replications of the experimental condition, i.e., designing and adapting the games the children played via the games

analysis model and, in each case, the changes in the dependent measures were reliable.

Second, the sociometric data at posttest indicated that the games analysis treatment was effective in increasing the isolated children's peer acceptance. The follow-up posttest, administered three weeks after the end of treatment, indicated that the isolated children had moved toward greater inclusion by peers. These data should be considered in light of evidence that activity intervention does not produce lasting change in isolated children's peer status for periods greater than two weeks (Gottman, 1977; Lilly, 1971; Rucker & Vincenzo, 1970). Apparently, games analysis training is effective in creating more lasting effects.

The third conclusion that can be drawn from these data is that the isolated children's gain in positive social behavior during the study was paralleled by a gain in peer acceptance. This finding is in agreement with previous researchers who have reported a positive correlation between children's social behavior and their sociometric status (Charlesworth & Hartup, 1967). Apparently, games analysis training is an effective treatment for promoting positive social behavior for resultant gains in peer acceptance.

Problems and Limitations

There were at least two problems that appeared during the course of the study. While it is not felt that either of the problems present a serious threat to the findings of the study

or to the reliability of the data, the reader should be aware of these problems.

First, the study was designed to examine the existence of a functional relationship between games analysis training and gains in social behavior for seven isolated children. However, for reasons already discussed elsewhere in this study, too little data were collected on two of the subjects to permit conclusions about the treatment's effect on this pair of subjects.

The second problem encountered during the course of this study was caused by the school environment. Twice the subjects' groups were on field trips during the research period. This resulted in cancellation of two sessions of the experiment. In addition, one other session had to be cancelled as the public schools were closed following tornadoes. These cancellations resulted in the games sessions lasting for a period of 22 days instead of the originally planned 25 days.

In spite of the above mentioned problems and the resultant loss of data, it is felt that the accumulated data are powerful enough for conclusions to be drawn about the treatment effects.. In future studies these problems could be avoided by selecting subjects who are regular in their school attendance and by avoiding selecting subjects from classrooms who are scheduled for field trips during the course of the experimental conditions.

At least four limitations of the study must be considered. First, the subjects of this study cannot be said to be representative of all socially isolated children as there is great

variability in definitions and diagnoses of the syndrome of social isolation.

Second, the sociometric assessment used in this study does not record actual peer association. Sociometry records only what people report and has the virtues and limitations of any such data. Generalizing from a study using sociometric instrumentation should be done with caution.

Third, since the subjects were from a rural agrarian setting, these findings cannot be considered representative of children from urban industrial environments. Finally, the researcher of the present study served as the instructor in the games analysis training. Although a conscientious effort was made to minimize differences in the instructor's role during baseline and treatment phases, it may be that the instructor was more enthusiastic and/or attentive during the treatment phases.

Practical Implications

A number of findings were derived from the data in this study which may have practical implications for others involved in either applied research or practice in this area. For the first time there is empirical evidence that the games analysis treatment is effective in increasing the peer acceptance and social adjustment of isolated children. These findings may lead to increased research into the play and motor skills development of socially isolated children, more research into the relationship between game designs and behavioral outcomes, and/or increased research

into games analysis training as a treatment approach with children exhibiting social or emotional deviances.

Second, practitioners should be made aware of the potential of games analysis training as a treatment tool for socially isolated children. In addition, physical educators and elementary school teachers should reevaluate the role of games in their physical education curriculum in light of the relationship between game designs and change in behaviors of children.

Third, games analysis training in the present study was designed to be used in the schools. Intervention research and applications should be conducted in ways that do not stigmatize children. Too often treatment practices for children with social or emotional deviance lead to segregating them from their classmates. In the present research, for example, many non-isolated as well as isolated children left the classroom to participate. Post-experimental interviews indicated that none of the children had connected the sociometric assessment with the games sessions.

Finally, the games analysis intervention is an accountable treatment method. Games analysis provides the teacher with a tool to identify specific behaviors and to teach to those same behaviors.

Suggestions for Future Research

This study was the first investigation into the efficacy of games analysis training as a procedure to increase the acceptance and adjustment of isolated children. As such there are a number of areas that deserve further investigative effort. The present study

has generated numerous experimental questions that must be answered before one can be certain of the generalizability of the findings and the conclusions of the study.

Sulzer and Mayer (1972) have discussed two types of replication. Direct replication, wherein no major experimental variables are altered, is always impossible to obtain in applied settings. Systematic replication, wherein the experimental variables are changed in a systematic manner, portends great promise for researchers. Assuming that the research design is held constant, the following discussion will be concerned with some of the variables that should be investigated in future research.

Given that the games analysis trained socially isolated children made gains in peer status and social behavior, further research should examine critical factors within the games analysis training procedure. The important aspects of this training most probably included (a) focusing on the children's motor skills and designing games and movement tasks to account for current stages of motor development by the children, (b) allowing the children the opportunity to share in decision making about the structure of the games to be played, and (c) instructing the children in problem solving skills via games analysis which may have contributed to their coping ability with a game environment.

Second, in future research, subjects should be selected with differing age levels to investigate the possibility of a differential treatment effect at different ages. A related issue is determining games analysis training procedures appropriate to

younger children. This may be especially important as early intervention with young children would seem to lessen the likelihood of children becoming socially isolated or rejected at a later time in their development.

A third variable is the time of the year in which the intervention occurs. The present study was conducted late in the school year. Even greater gains in peer status might be achieved if studies were conducted earlier in the school year when children's reputations and relationships are not quite so developed. Also, in future studies behavioral codes may need to be more specific. For example, in the present study, "being helpful" and "looking at the other child" were coded the same.

Fourth, future studies should employ instructors who are blind to the purpose of the study. In the present study the researcher served as the instructor of the games analysis training. Although a conscientious effort was made to avoid experimenter bias, it may be that the instructor was more enthusiastic and/or attentive during the treatment phases.

Finally, future intervention research should include long-term follow-up sociometric assessment and behavioral observations. From the follow-up sociometric data of this study, it may be concluded that games analysis training can make a lasting contribution to children's peer acceptance.

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APPENDIX A

DESCRIPTION OF SUBJECTS

Subject C.F. is a physically small ten year old black male with a reported school history of exteme immaturity and emotional disturbance. He is presently enrolled in a resource room program for the emotionally handicapped. C.F. lives with his mother and stepfather in a deprived environment. C.F.'s teachers reported that he is constantly scapegoated by peers and is often ridiculed for his immature behaviors, e.g., thumbsucking and prattling to his teachers.

Subject D.O. is a physically small ten year old American Indian male with a reported school history of hyperactivity, motor problems, and uncooperative behavior. D.O. lives with both parents in a low middle class environment. His teachers reported that D.O. is a conduct problem and has difficulty accepting the authority of his teachers. It was also reported that D.O. is subject to peer rejection because of his traditional Indian hairstyle and dress.

Subject K.K. is a well developed 11 year old black female with a reported school history of autistic and uncooperative behavior. She is presently enrolled in a resource room program

for the emotionally handicapped. K.K. lives with both parents in a low middle class environment. Her teachers reported that K.K. can be extremely rejecting toward others and is quick to anger. She has experienced learning difficulties due to an attention deficit and her tendency to tune out the classroom environment.

Subject S.S. is a physically small ten year old white female with a reported school history of egocentric and inappropriate social behavior. She lives with both parents in a middle class environment. Her teachers reported that S.S. is rejected by peers because of her preoccupation with herself in conversations and her lack of reinforcing behavior toward peers. It was also reported that S.S. constantly prattles to her teachers about her classmates and has to be discouraged from hovering around her teachers.

Subject M.S. is a well developed 11 year old white male with a reported school history of belligerence and aggression toward peers. M.S. lives with both parents in a low middle class environment. His teachers reported that M.S.'s classmates are intimidated by his physical prowess and his bullying behaviors. On the surface M.S. appears to be quite normal in his behavior, but when provoked he can erupt in violent behavior and profanity.

Subject R.G. is a well developed 11 year old black male with a reported school history of school phobia and severe

emotional disturbance. He is presently enrolled in a resource room program for the emotionally handicapped. R.G. lives with his mother in a deprived environment. His personality is characterized by a pervasive mood of sadness. He is extremely lethargic in his movement patterns. His teachers reported that R.G. is listless in the classroom and does not seem to be in touch with the "real world." R.G. can become violent toward others with little provocation and is occasionally involved in bullying smaller classmates.

Subject P.C. is an 11 year old black female with a reported school history of socially delinquent behavior and school truancy. She lives with her divorced mother in a deprived environment. She receives little supervision at home and spends more time out in the community than with her family. Her teachers reported that P.C. tries to impress her classmates with her "grown up" behaviors, e.g., cigarette smoking and wearing cosmetics. P.C. does not interact with her classmates after school, preferring to spend her time with older adolescents.

Subject A.C. is a physically skilled 11 year old black male with a reported school history of fair academic progress in school while being somewhat of a conduct problem. A.C. lives with his divorced mother in a deprived environment. He is respected by his classmates because of his athletic abilities.

Subject S.J. is a normal sized ten year old black male with a reported school history of normal academic and social

progress in school. He possesses an easy going nature and is well liked by his classmates. He is a well coordinated child and participates on numerous athletic teams.

Subject T.N. is a small ten year old black female with a reported school history of normal academic and social progress in school. She participates in extra-curricular activities in school and is attractive in her demeanor and appearance. Her personality is cheerful and somewhat flippant in nature.

Subject G.H. is a normal sized ten year old white female with a reported school history of superior academic progress in school. She is presently enrolled in an enrichment program for gifted children. She is well respected by her teachers for her academic skills. She is somewhat retiring in her social nature but enjoys friendships with numerous classmates.

Subject C.M. is a small ten year old white female with a reported school history of good academic progress in school. She lives with both parents in an upper class environment. She is mature socially and is well liked by her classmates. C.M. is feminine in her play interests and does not enjoy vigorous activity.

Subject M.Z. is a ten year old white male with a reported school history of normal academic and social progress in school. He lives with both parents in a middle class environment. M.Z. possesses an outgoing nature and enjoys friendships with many of his classmates. He is fairly well skilled in physical activities and is well liked by his classmates and teachers.

Subject D.T. is a ten year old white male with a reported school history of normal academic and social progress. He lives with both parents in a middle class environment. D.T. is an intelligent and imaginative child who reads science fiction and possesses a strong general fund of information about current events. He is somewhat retiring in his personality but he enjoys friendships with several children. He is moderately skilled in physical activities.

APPENDIX B

ROSTER-AND-RATING SOCIOMETRIC TEST

I am interested in how much you like to play with your classmates. Please give each of your classmates a score. Scores can range from "1" (I don't like to play with this person) to "5" (I like to play with this person a lot). Don't forget to give everybody a score.

Student's Name	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5

APPENDIX C

BEHAVIOR RECORDING FORM

	TASK PARTICIPATION	PEER ORIENTED/ SUPPORTIVE (looking, touching, or talking in a neutral way toward peers; smiling or being helpful)	UNCOMMUNICATIVE/ IGNORING (not looking, touching, or talking to peers; looking away, turned away from peers)	UNCOOPERATIVE/ REJECTING (bullying peers, hogging materials, name-calling, making mean faces)	OTHER
Subject 1					
Subject 2					
Subject 3					
Subject 4					
Subject 5					
Subject 6					
Subject 7					

APPENDIX D

GAMES SESSIONS

Baseline I

Session 1

Regulation softball was played. Successfully catching and striking the softball proved to be beyond the motor skills of several children. D.O. struck out each time at bat and was subjected to taunts and name-calling by his teammates and members of the opposing team. S.S., K.K., C.M., P.C., and T.N. also struck out during the game. Twenty-three fielding errors were made by the two teams.

A high incidence of inappropriate social behavior occurred while the batting team was standing around and waiting their individual turns to bat. C.F. engaged in thumbsucking while K.K. autistically twirled herself in circles behind the backstop. S.S. sat on the ground with her back turned to the activity of the game.

Similarly, uncommunicative and ignoring behaviors occurred in the field. K.K. positioned herself in foul territory outside the third baseline and intermittently turned circles. K.K. made no effort to field balls in fair play. C.F. misplayed a fly ball and laid on the ground feigning an injury to cover up his miscue.

A high frequency of uncooperative and rejecting behaviors were exhibited by M.S. and A.C. They were quick to ridicule team members who erred in fielding the ball and constantly bickered with teammates over team strategy.

Despite the above mentioned social pathology, several of the children, including M.Z., D.T., and G.H., exhibited good gamesmanship. S.J. and M.S. won the acclaim of their teammates for hitting home runs.

The instructor served as the umpire and scorekeeper. The instructor mediated disputes between players and encouraged the children to display good gamesmanship.

Session 2

Regulation kickball was played. All of the players were able to kick the soccer ball into fair play and most of the children were successful in catching the soccer ball. The game was played at a fast pace and the majority of children displayed good sportsmanship.

Social problems did occur, however, due to the design of the game. K.K. became upset with the manner in which the ball was delivered to her while at kick. She claimed that the deliveries were too fast and the ball bounced too roughly. Upon kicking into an out, K.K. walked off the field and refused to participate in the rest of the game. C.F. and D.O. also squabbled with the opposing pitcher over the manner of delivering the ball.

The team captained by A.C. stayed at kick for 15 of the 20 minutes played. M.S. and C.F., members of the team which stayed in the field for most of the game, became uncooperative and rejecting toward their teammates. Their team's defensive failures engendered name-calling between members.

A high incidence of withdrawn behaviors occurred while players were standing around awaiting their individual turns to kick. S.S. hovered around the adult playground observer and ignored the progress of the game.

The instructor served as the umpire and scorekeeper. The instructor mediated disputes between players and encouraged the children to display good gamesmanship.

Session 3

Regulation volleyball was played. The instructor demonstrated the correct way of striking a volleyball and explained the rotation procedures involved in volleyball. The children started the game with a great deal of enthusiasm and most of the children maintained a high level of task participation throughout the session.

However, successfully striking the volleyball over the net proved to be beyond the motor skills of several children, especially C.M., D.O., and S.S. Their constant failures led to their being criticized by teammates. C.F. became belligerent toward players who caught the ball and then threw it over the

net. Frustrated by his team's inability to volley the ball over the net, C.F. kicked the ball off the playing field on two separate occasions. K.K. argued with teammates over the rotation procedure and walked away from the game. K.K. spent the remainder of the games session sitting on the jungle gym adjacent to the volleyball playing area. M.S. was less critical of his teammates than the previous two days, but he also argued over the rotation procedure.

The instructor served as the referee and scorekeeper and mediated disputes between children. The instructor also encouraged the children to display good sportsmanship during the volleyball games.

Session 4

Regulation basketball was played. A.C. and S.J. demonstrated good dribbling, passing, and shooting skills. All of the male players, with the exceptions of D.O. and C.F., demonstrated a high level of task participation.

Many of the children were not familiar with the rules of basketball regarding traveling, double dribbling, and fouling. A high frequency of bickering over rule violations between teammates and opposing team members was present throughout the game. A limiting factor in the poor gamesmanship on the part of the players was their failure to understand the structure of the game.

There was little team strategy during the game with the more skilled male players monopolizing the ball and refusing to pass to female players and less skilled same-sex teammates. K.K. and S.S., excluded by their male teammates, lost interest in the game and idly stood around on the court. D.O. argued with teammates because they would not pass the ball to him. C.F. claimed that the other team was fouling too much and walked off the court but returned to the game after a few minutes on the sideline. M.S. was involved in monopolizing the ball and was critical of his teammates mistakes.

The instructor served as the referee and scorekeeper. He mediated disputes between the children and encouraged the children to display good sportsmanship.

Session 5

Regulation softball was played. A.C., M.S., and S.J. all hit home runs and A.C. demonstrated superior speed in running the bases. Most of the children exhibited good sportsmanship throughout the game.

As in session one, successfully striking and catching the softball proved to be beyond the motor skills of several children. D.O. was ridiculed by M.S. and other teammates for his fielding errors. S.S.'s teammates yelled at her for striking out.

Inappropriate social behavior occurred while the players waited their turn to bat. K.K. engaged in twirling circles while

C.F. beat on the backstop with a bat. S.S. failed to pay attention to her turn in the batting order and missed her turn to bat.

K.K., a baserunner, and D.O., a fielder, collided while running toward second base. D.O. called K.K. a name and K.K. responded by slapping D.O. in the face. D.O. struck back at K.K. and then ran from her. K.K. chased D.O. around the softball diamond until the instructor could intervene. K.K. was very upset about the incident and refused to participate in the rest of the game.

The instructor served as umpire and scorekeeper. The instructor mediated disputes between players and encouraged the children to display good sportsmanship.

Games Analysis I

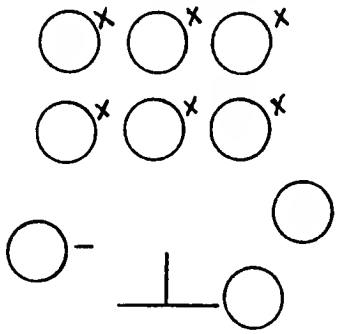
Session 1

The games analysis model was presented to the children. The instructor explained that each game is composed of six categories and that within each category are a number of components. The instructor then dissected the game of softball and placed its part in the games analysis grid on a blackboard. The instructor followed this up by asking the students how they could change the game of softball by manipulating several of the components. Suggestions by the group included (1) allowing each batter an unlimited number of strikes, (2) limiting each

team to one out per inning, and (3) allowing the batter to choose what size ball to strike when at bat. The group was then asked to try out some of their suggestions by playing the game.

The instructor then presented the children with the following game:

Game 1: Hula Hoop Softball

Players	Equipment	Movements	Organizational Pattern	Purpose
7/team	1 batting tee, 10 hula hoops, 3 different types of balls	running, hitting, catching, throwing		To develop running, hitting, catching, throwing skills. To promote team strategy.

Limitations:

1. Time limit game--batting team up for 1 1/2 minutes only.

2. How to make an out; the only way to make an out is to perform specific tasks as fielders, return ball to out hoop before batter crosses home.

3. Batter's job--hit plastic ball off of batting tee, batter runs to "go thru hoop" (15'-20' from batting tee), holds hoop perpendicular to floor; rest of teammates must run through the hoop; all these players must then run and cross home plate.

4. Fielder's job--after the batter hits the ball, one player retrieves the ball, rest of players stand inside hoop--throw the retrieved ball to six different players; if the ball is dropped,

start the count all over again--person receiving the sixth throw runs the ball to the out hoop.

5. If the fielding team gets the ball to the out hoop before everyone on the batting team has crossed home plate, an out is registered.

The limitations category describes this game quite adequately. By designing this softball type game in this manner the inappropriate social behavior that had been exhibited by players standing around waiting their turn to bat was eliminated. By requiring all of the batter's teammates to run through the hoop the instructor increased the movement time and decreased the waiting time quite considerably for each player.

By mandating that it was a time limit game, the kinds of social sanctions that had occurred when one team stayed in the field for the majority of the period were eliminated. Each batting team was up for only 1 1/2 minutes.

In requiring one player to retrieve the ball and throw the retrieved ball to six different players, the level of task participation was increased. For example, K.K. who had been positioning herself in the field in foul territory away from the activity of the game, was now required by her teammates to position herself closer to the center of the diamond because of team strategy. By placing the ball on a tee all of the players were able to successfully strike the ball. This eliminated the name calling and social ridicule which attended players' striking out. The

levels of uncommunicative/ignoring and uncooperative/rejecting behaviors were significantly reduced by the design of the game.

The game was well played by all of the participants although A.C. and S.J. argued over the fielding team not passing the retrieved ball to all of its players. C.F. also argued that the batting team was running around the hula hoop rather than going through it. The instructor intervened and cautioned the children to observe the rules of the game. The instructor served as umpire and scorekeeper. He mediated disputes between players and encouraged the children to display good gamesmanship.

Session 2

The instructor asked the children how they wanted to alter the game played yesterday. S.J. wanted to play kickball and suggested changing the major movement task from striking to kicking and the group agreed. Thus kickball was played by the group using the same limitations of game 1.

K.K. became upset with the opposing pitcher's style of delivery. The instructor intervened and asked the group how they could change the game so that disputes over delivering the ball could be eliminated. M.Z. suggested allowing each kicker to choose the style of delivery they preferred. The group then decided to allow each kicker to choose from three types of deliveries; (1) horizontally rolling, (2) bouncing roll, and (3) ball in flight. This change satisfied K.K. and eliminated further disputes over the delivery of the ball.

The game was well played by all the players and the players were reluctant to quit playing at the end of the session. The instructor complimented the children on solving the problem of deliverying the kickball and encouraged them to apply their developing games analysis skills to resolve future game design problems.

Session 3

At the start of the session, the instructor asked the children to play the softball type game played in session 1. However, the instructor encouraged the children to alter components of the game as long as it remained a softball type of game. A group of children suggested changing the equipment components of the game. These children wanted to substitute a regulation softball bat and softball for the batting tee and plastic ball. S.S. and C.M. complained that hitting a softball in the traditional manner was too difficult.

A.C. suggested eliminating the batting tee but allowing each batter to choose the size of ball to be struck. The group agreed to A.C.'s suggestion and the children could choose to strike any of three different sized balls (a softball, a 12" diameter rubber ball, an 18" diameter rubber ball). The least skilled children choose to have the largest ball delivered to them while the most skilled chose to strike at the softball. All of the children were able to successfully strike the ball of their choice.

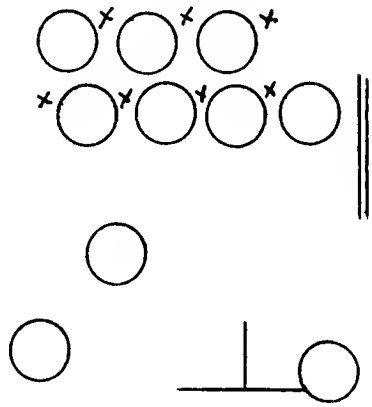
Other than the equipment, the children chose to include the same components used in Game 1. Watching the progress of the game, it became evident to the instructor that two of the female players were becoming fatigued by having to run through the "go thru hoop" each time a team member batted the ball. The instructor intervened by asking the children how they could alter the organizational pattern so that players would not become over-exerted. D.O. suggested dividing the batting team into two groups, A and B. When A group was up (only one player bats), upon hitting the ball everyone in A group ran through the "go thru hoop." By suggesting splitting the batting team into two groups, D.O. was providing recovery time for the fatigued children. The group agreed to D.O.'s suggestion and the game was designed accordingly.

The resultant game was played enthusiastically by all the players and they seemed to gain a more cooperative spirit within the group. At the close of the session the instructor praised the children for allowing each player to choose the size of ball he/she wished to strike. The instructor stressed to the players that individuals were different and it was all right to possess the physical skills each had at the time.

Session 4

The instructor introduced the following game to the children.

Game 2: Hula Hoop Softball Plus

Players	Equipment	Movements	Organizational Pattern	Purpose
7/team	Bat, balls of varying sizes, hula hoops, 4 bowling pins	running, hitting, bowling, catching, throwing		To develop running, hitting, bowling, catching, throwing skills. To promote team strategy.

Limitations:

1. Time limit game--batting team up for 1 1/2 minutes only.

2. How to make an out--the only way to make an out is to perform specific tasks as fielders, roll ball inside out hoop before batter crosses home plate.

3. Batter's job--hit ball, run to bowling pin area. Stay behind line (10' from pins) and bowl a ball until all pins are knocked over; then run to home plate.

4. Fielders--after batter hits the ball, one player retrieves the ball, rest of players stand inside hoop; throw the retrieved ball to seven different players; if the ball is dropped, start the count all over again; person receiving the sixth throw runs to the center hoop and rolls the ball inside the out hoop (it must stay

in the hoop); if all of this is done before the batter crosses home plate, the batter is out.

In this game the instructor introduced bowling, a skill not commonly used in elementary physical education games. The children were attracted to the novelty of the game design. D.O., who had the poorest motor skills of any of the male children, was the first player to successfully knock the pins over. D.O. was delighted with his success and the newly won approval of his teammates. It was remarkable that several of the children with poor motor skills were more adept at knocking over the pins than were their more skilled playmates.

The batter's teammates were most supportive of his/her efforts to knock over the pins while at the same time watching the fielding team perform its tasks. The design of the game generated a great deal of excitement and interest.

Bickering occurred between teams over the batter not staying behind the line when bowling the ball. The fielding team also argued that the batter's teammates were retrieving the bowled ball for the batter instead of allowing him/her to retrieve it. The instructor intervened and asked the children how they could resolve the problem. T.N. suggested making it an automatic out if the batter failed to stay behind the line when bowling or when teammates assisted the batter in retrieving the ball. The group agreed to T.N.'s suggestion and no further disputes occurred over the batter's task.

As in all previous games sessions, the instructor served as umpire and scorekeeper. He urged the children to manipulate the various game components in solving social conflicts that occurred when playing games.

Session 5

Utilizing his observations of the children's catching and kicking skills during the games sessions, the instructor presented to the children a game which accounted for their motor skills in these areas. The following game was played by the children.

Game 3: Kick and Go

Players	Equipment	Movement	Organ. Pattern	Limitations	Purpose
7/team	kicking ball of choice/ catching ball of choice	kicking, catching, running, throwing	Random in field--hula hoops in circle	1. Kick ball of choice into field. 2. Run as group of 4 around all 7 bases before fielding team completes task. 3. Fielding team must have one person retrieve kicked ball, place in hula hoop at center of field. 4. Once this is done, all other players stand inside hoop, pick up ball and play self catch for 7 catches--ball must go above shoulders. 5. Complete this task before runners cross the home plate for out. 6. Time limit game--kicking team up for 2 minutes only.	To develop kicking and catching skills.

Each player had his/her choice of balls to kick, one that he/she was capable of kicking, and likewise each player had their own ball to play catch with when out in the field. The least skilled players chose to catch a nerf ball and kick the largest ball (18" diameter) while the most skilled players chose to catch a whiffle ball and kick the smallest ball (8" diameter). The instructor encouraged the players to honestly choose balls appropriate to their current level of motor development and discouraged the players from comparing their individual choices to those of others in the group.

The game was played well by most of the participants. The fielders' and kicking team's tasks promoted task participation and prevented the players from idly standing around and watching their teammates perform. All of the players were successful in kicking and catching the ball of their choice and this eliminated players from ridiculing playmates for fielding and kicking miscues.

Halfway through the period, C.F. argued that the fielding team was not throwing balls above their shoulders. M.Z. agreed with C.F.'s observation and suggested that the batting team be awarded a run anytime the fielding team failed to throw the balls above their shoulders. The group agreed to M.Z.'s suggestion and the rules of the game were modified.

The instructor served as the umpire and scorekeeper. He encouraged the children to exercise decision making and problem solving skills when playing the game.

Session 6

The instructor divided the children into two work groups. Each group was presented with three balls of different sizes, seven hula hoops, and one beanbag. The instructor posed the following problem to the groups, "Design a kicking and dribbling game utilizing all of the equipment; every player must be engaged in the game at all times. You have eight minutes to design the game."

All of the children, except for C.F. and M.S., seemed to enjoy the responsibility and freedom of creating a game. C.F. and M.S. wanted to begin playing games immediately and were disgruntled at having to spend time designing a new game. This led to C.F. and M.S. standing idly apart from their groups and not participating in the activity.

The instructor circulated between the two groups providing direction where needed. After eight minutes had passed, the instructor suggested that each group begin playing their game. Following this, each group performed their game for the other group. Afterwards, the remainder of the session was spent playing the two new games the children had designed.

Among the isolated children, D.O. and S.S. took an especially active role in designing their group's game. The focus of this problem-solving activity was on good ideas rather than accepted standards of motor skills. D.O. and S.S. found themselves being reinforced for their ability to manipulate game components rather

than their ability to perform according to predetermined arbitrary standards.

At the close of the session the instructor complimented the children on their game designs. The instructor emphasized independent decision-making as a valuable process in games situations.

Session 7

Three games designed to promote volleyball skills were played. When volleyball was played during the baseline period, it was evident to the instructor that many children were unable to correctly strike the volleyball over the net. Utilizing his observations of the children's volleying skills when regulation volleyball was played, the instructor designed the following volleyball type games for the children to play.

Game 4: Keep It Up

Players	Equipment	Movements	Organ. Pattern	Limitations	Purpose
2 players per team	a ball of player's choice	overhead striking, underarm striking	pairs of players randomly scattered around play-ground	1. Must strike the ball in overhead or underarm striking pattern. 2. You can hit it to yourself several times, then hit it to partner. 3. You can play the ball off one bounce on the floor. 4. Try to keep the ball moving for 10 sec., 15 sec., teacher sets limit.	To enhance given motor skills. To promote cooperation among players.

When first teaching the striking skill to children it is most important that they learn to control the ball. Therefore, this game was structured so that the players get the ball under control before they send it to their partner. Partners chose various types of balls to strike. The lesser skilled partners chose to use beachballs and large rubber balls while the more skilled partners chose to strike a regulation volleyball.

The next game played by the children was identical to game 4 except for the addition of a net.

Game 5: Keep It Up Over the Net

Players	Equipment	Movements	Organ. Pattern	Limitations	Purpose
same as game 4	——————→		couples facing each other with net between them	1. Same as game 4. 2. Same as game 4. 3. Same as game 4 plus you must strike it over the net to your partner so he can hit it back to you. 4. Same as game 4.	To develop net skills with a ball. To promote cooperative behavior.

The children were encouraged to make decisions about the height of the net and the slope of the net. The height and slope variations allowed the children to pick the net type with which they could successfully cope.

The final game played, mass volleyball, was similar to regular volleyball except for rule changes. These rule changes are delineated in the limitations category.

Game 6: Mass Volleyball

Players	Equipment	Movements	Organ. Pattern	Limitations	Purpose
5-7/ team	ball of choice, net	volley-ball striking skills	2 teams facing each other with net between them	1. Same as game 4. 2. You can hit it several times to yourself then to a partner or hit the ball over the net to the other team. 3. If the ball hits the ground, the opposing team gets a point regardless of who served the ball. 4. First team to score 10 points is the winner. 5. You cannot hit the net with your body; forfeit the point if you do.	To develop team play using volleyball skills. To develop cooperative behavior.

The children chose to use a beachball 24" in diameter. They also chose to lower the center portion of the net. All of the children were able to strike the volleyball both overhead and underarm style. There was much glee and laughter as the children volleyed the huge multicolored beachball.

When volleyball was played during the baseline week in its traditional format, a great deal of inappropriate social behavior occurred when returning the ball to the opposing team for service. Both C.F. and M.S. had kicked the ball out of the playing area during baseline rather than properly returning the ball. This

problem was eliminated by having the team closest to the ball when a point was scored initiate the next service.

Likewise, when traditional volleyball was played there was an excessive amount of bickering and arguing over the rotation procedures and over whose turn it was to serve. These uncooperative behaviors were eliminated by having no prescribed positions and by having no service area. The player closest to the ball was allowed to serve it from his/her position.

All three games were designed to promote cooperative behavior. By pairing players off into partners during the first two games the children were required to become cognizant of the motor skills of their partners. Choosing a ball type that both partners could successfully volley enhanced emotional understanding between partners.

There was little social pathology evident during the games session, although S.S. complained her teammates were volleying balls in her court area during mass volleyball. The instructor refereed the various games played and served as the scorekeeper.

Session 8

"Three Hits," a volleyball type game was played. This game was similar to Game 6 except that the structure of the game mandated that the players control the ball more because of the three hit limit.

Game 7: Three Hits

Players	Equipment	Movements	Organ. Pattern	Limitations	Purpose
Same as Game 6	——————————→			1. Same as Game 6. 2. A team can only hit ball 3 times on one side and the ball must go over the net on the third hit--one player can hit 3 times. 3. Same as Game 6. 4. Same as Game 6. 5. Same as Game 6.	Same as Game 6

The group first played the game using an 18" diameter beachball. After two games had been completed the group opted to use a regulation volleyball. The instructor then suggested that the group add an additional volleyball to the game to increase the movement time per individual player. The group responded enthusiastically to the suggestion and the remainder of the period was spent playing the game with two volleyballs. Adding the second ball required that the players be alert at all times and increased the pace of the game.

Striking the volleyballs over the net proved to be difficult for S.S., C.M., and D.O. S.J. became angry at S.S. for her volleying miscues and threatened to quit if S.S. remained on his team. The instructor intervened and asked the group how they could modify the game so that the lesser skilled players could strike the ball over the net. K.K. suggested using a slanted net and

positioning the lesser skilled players in front of the net at its lowest point. The group agreed to her suggestion and the net was slanted accordingly.

The instructor served as referee and scorekeeper for the game. At the end of the session he complimented the group on modifying the net so that the lesser skilled children could successfully strike the ball over the net.

Session 9

When regulation basketball was played during the first baseline period, an inordinate amount of inappropriate social behavior had occurred due to the player's lack of knowledge of the fundamental movement patterns of basketball. Two basketball type games were introduced to the children to aid them in developing the motor skills and game concepts necessary for participation in regulation basketball.

Game 8: Pass and Turn

Players	Equipment	Movements	Organizational Pattern	Purpose
4-7/ team	1 ball/ team	pass and dribble	X X X X X X X X	To develop pass and dribble skills.

Limitations:

1. Each player may only dribble with one hand, must chest pass.

2. Each player must stop at designated spot on floor.

3. Game is over when each player has shot once.

4. Most points win the game.

5. The shooting occurs after the pass and turn relay has been performed.

The players performed the pass and turn relay first. Then while standing in line, one at a time, the players attempted to score a basket via the hula hoop or the regular basket. Allowing the children to shoot at the hula hoop gave those children with poor shooting skills an increased opportunity to score points for their team.

The final game played during the session was "Basketbowl."

Game 9 : Basketbowl

Players	Equipment	Movements	Organizational Pattern	Purpose
Any number per team; do not have to have even numbers per team. The more teams you have, the greater is the movement time.	Variety of balls, hula hoops, bowling pins	All basketball movements plus bowling movements	Relay formation--any type, could be: X X X X X X X X X X X X X X	To develop strategy. To promote motor skill development.

Limitations:

1. Time limit game--3 minutes.

2. Scoring system--1 point/pin knocked over, 2 points for putting ball through hula hoop, 3 points for putting ball through basket.

3. May only have one chance at bowling and may only take one shot at basket.

4. Must hand the ball to next player on your team.

The teams were placed in a file formation. The first player on each team attempted to bowl the ball and knock over two pins set up 20' away. Having completed this task, the player retrieved the ball and moved to the shooting area where he shot at either the basket or the hula hoop hanging from the basket. He then rebounded the ball and dribbled back to his team and handed the ball to the next player.

This proved to be an enjoyable game for all the children because it accounted for the players who could not shoot; they could still score points for the team by bowling. After playing the game once, the instructor suggested adding a second ball into the game to improve the movement time and decrease the waiting time. The children agreed to the suggestion and the addition of a second ball heightened the interest of the game.

The inappropriate social behavior displayed when playing regulation basketball during the baseline period did not occur when these lead-up basketball games were played. These games were designed to reflect the current motor development of the children and to aid them in using their developing skills. Playing these games with success, the children did not need to compensate for movement inabilities with negative social behaviors as they had when regulation basketball was played.

The instructor refereed and kept score of the games played. He complimented the children on their developing basketball skills at the end of the session.

Baseline II

Session 1

The children returned to playing traditional games. Regulation softball was played. The majority of the players demonstrated good gamesmanship during the session, but the design of the game led to a number of negative social behaviors. The team captained by T.N. stayed at bat for 13 minutes during the second inning and the team in the field began sanctioning its members for their inability to put out the batting team. C.F. became upset with his team's fielding errors and pulled a tennis ball out of his pocket and began playing catch by himself. A.C., the team's pitcher, was similarly upset by his team's inability to come to bat and he began to erratically deliver the ball to the batting team. The batting team objected to his style of delivery and a squabble ensued between the two teams over pitching the ball. M.S. was especially vehement in arguing with the opposing team.

Upon striking out, D.O. angrily threw his softball bat and accidentally struck K.K. in the forehead with the bat. K.K. was stunned by the blow and was assisted to the principal's office by the instructor. S.S. and C.M., as well, experienced failure trying to strike the softball. The game ended with A.C. and

M.S. arguing because of their colliding together at second base on a fielding play.

The instructor umpired and kept the score of the game. He mediated disputes between players and encouraged the players to exhibit good sportsmanship.

Session 2

Regulation kickball was played. The game was played well by the participants until A.C. fielded G.H.'s kick and put her out by striking her in the face with the ball as she ran toward first base. G.H. cried from the impact of the ball and was assisted off the field by the instructor. A.C.'s action angered G.H.'s teammates and name-calling was exchanged between the two teams. When G.H.'s teammates took the field the next inning, they retaliated by trying to hit the baserunners in the face with the ball. Instead of simply stepping on second base to force out S.J., the baserunner, C.F. hit S.J. with the ball full force as he slid into second base. S.J. reacted by grabbing C.F. and slamming him to the ground. The instructor intervened before further physical violence could occur between the two boys.

Several of the female players became frightened of being struck by the ball and both K.K. and C.M. chose not to participate in the game any further. Their departure caused the number of players on each team to be uneven and this further contributed to the poor quality of gamesmanship displayed during the remainder of the session.

During the session the instructor served as umpire and referee. He mediated disputes between players and encouraged the children to demonstrate good gamesmanship.

Session 3

Regulation basketball was played. The social pathology that had surfaced when this game was played during the first baseline period reappeared. Again, the more skilled male players refused to pass to less skilled teammates and monopolized the ball. Several of the female players soon lost interest in the game and they walked off the court to sit under a shade tree.

Arguments over the rules of the game occurred again as well. S.J. claimed that the instructor, who was refereeing, was unfairly calling fouls on him and he walked off the court. C.F. argued that the opposing team was not being whistled for fouling and he sulked on the court.

Most of the children experienced difficulty in dribbling and passing the ball efficiently because of the unpredictable and changing nature of traditional basketball. Because the game played was not designed to account for the players' motor skills, the players' performance was affected detrimentally.

The majority of the male players exhibited a high level of task participation throughout the session. A.C. exclaimed that he was glad the girls had quit the game and other male players agreed. The instructor served as referee and scorekeeper. He mediated disputes between players and encouraged the children to demonstrate good sportsmanship.

Session 4

Regulation volleyball was played. Several of the children, especially D.O. and S.S., were unsuccessful in striking the ball over the net. The team captained by D.T. was more adroit at volleying the ball and they convincingly defeated the team captained by A.C. four consecutive games. A.C.'s team became uncooperative in returning the ball to the opposing team for service delivery. Instead of correctly rolling the ball under the net to their opponents, they began to wildly strike and kick the ball toward them.

A.C.'s team argued over rotation procedures and over whose turn it was to serve. C.F. claimed that D.T.'s team was hitting the net with their bodies and he began to hang on the net despite the instructor's command to refrain from doing so.

Toward the end of the period, A.C.'s team lost all semblance of team strategy and cooperation. Members began to strike the ball as hard as they could with no concern for volleying the ball inside the court boundaries.

D.T.'s team exhibited positive social behavior throughout the session and they ignored the negative behaviors of A.C.'s team. The instructor served as referee and scorekeeper during the games. The instructor mediated disputes between players and encouraged the children to display appropriate game behavior.

Games Analysis II

Session 1

Hula hoop softball was played (Game 1). Players were allowed to choose the type of ball to strike, thus insuring each player success when attempting to strike the ball. Task participation in the field and at bat was promoted by the design of the game. Because it was a time limit game, the social sanctions that had occurred when one team stayed in the field for the majority of the session were eliminated.

The instructor asked the children how they could prevent batters from throwing the bat and thereby avoid having players being struck by a thrown bat. D.O. suggested having a thrown bat boundary around home plate and if a batter threw his bat outside the boundary, it was an out. The group agreed to D.O.'s suggestion and the game was designed accordingly.

K.K. argued that the opposing pitcher was delivering the ball too fast. The instructor intervened and asked the group how they could change the game so there would be no arguing over pitching the ball. S.S. suggested having the batter choose the type of delivery preferred in terms of speed of ball. This suggestion was tried out but arguments occurred over what constituted a slow speed. M.S. then suggested that the instructor pitch for both teams. This idea was well received by both teams and the instructor served as pitcher for both teams the remainder of the session as well as umpiring and keeping the score of the game.

Session 2

Hula hoop kickball was played. This game was identical to hula hoop softball except for the major movement component being changed from striking to kicking. The players decided to allow each kicker to choose the type of ball and position of ball delivery when kicking. All of the players were successful in kicking the ball.

As in hula hoop softball, the fielding team had one player retrieve the ball who then initiated passing the ball to all of his/her teammates who were standing inside their hula hoops. The limitations of the fielders' task prevented them from striking baserunners with the ball, thereby preventing players from being hurt by the ball and tempers flaring.

Task participation in the field and in bat was promoted by the design of the game. Since each kicking team was in kick for only 1 1/2 minutes, the fielding team was less demonstrative in criticizing its members for fielding errors.

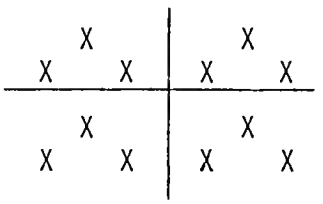
Arguments occurred over the fielding team not passing the ball to all of its team members. S.J. was especially vehement in accusing the fielding team of cheating and he sulked on the sidelines part of the session. The instructor intervened and cautioned the children to obey the rules of the game. M.Z. suggested that the batting team be awarded a run whenever the fielding team violated the fielding rules. The group agreed and the limitations of the game were modified accordingly.

The instructor served as umpire and scorekeeper. He encouraged the children to utilize the games analysis process in resolving conflicts between teams.

Session 3

A new game designed to promote volleyball skills was introduced.

Game 10: Four Corners Volleyball

Players	Equipment	Movements	Organizational Pattern	Purpose
3-4 players per team; 4 teams per net arrangement	6 balls per game	volleyball striking skills		To develop visual tracking behavior. To develop alertness in players during game.

Limitations:

All of the rules are similar to Games 6 and 7 except that no points are kept. Each team begins with one or two balls. The object is to play against the other three quadrants.

The players were required to be alert at all times due to the organizational pattern. The object of the game was to have no balls in your team's quadrant. Upon the go signal from the instructor, each team, using volleyball skills attempted to get the balls to the other teams. The game looked almost like a free-for-all but the players enjoyed it very much. S.S. and C.M. experienced difficulty in tracking the balls and their male teammates criticized them for

allowing balls into their quadrants. The instructor stopped the game when one team seemed to have the majority of the balls.

The last half of the session was spent playing "mass volleyball." The players decided to use an 18" diameter beachball and a slanted net. To encourage team strategy and cooperation the instructor introduced a new limitation; a team having three or more players hitting the ball before sending it over the net was awarded two points when they won the volley.

There were no arguments over rotation procedures as there were no prescribed positions although arguments over fielding balls outside one's court position did occur. Disputes over whose turn it was to serve and inappropriately returning the ball to the opposing team for service delivery were avoided by having the player closest to the ball when a point was scored initiate the next service.

The game was played well by the participants. K.K. suggested adding a second beachball to the game. The group approved her suggestion and the last game played included two beachballs.

The instructor served as referee and scorekeeper for the game. He praised K.K. for her suggestion of adding a second volleyball.

Session 4

The last session of the experiment was spent playing the favorite games the instructor and children had played during

the three weeks of games analysis sessions. "Hula hoop softball," hula hoop softball plus," "mass volleyball," and "basketbowl" were played.

Playing the different games resulted in a high level of task participation and supportive behaviors. There was some grumbling among the players over changing to a new game when it was their turn to kick or bat, but the majority of children appeared to enjoy the rapid game transitions.

Five minutes before the end of the session the instructor gathered the children together and thanked them for playing the games with him for the past five weeks. The instructor then asked for a show of hands as to how many of the children preferred the games analysis games to the traditional games played. The children were unanimous in preferring the games analysis games. The instructor then told the children he had a prize for each child and he presented each child with a paper sack containing school supplies and candy. The children were then escorted back to the school building.

BIOGRAPHICAL SKETCH

Mike Marlowe was born in 1947 at Chattanooga, Tennessee. He attended the public schools of Chattanooga and graduated by Chattanooga City High School in 1965.

Mr. Marlowe received the Bachelor of Arts degree in English from the University of Kentucky in 1969. In 1974 he was awarded the Master of Education degree with emphasis in emotional disturbance and mental retardation from Indiana University.

Mr. Marlowe has worked in a variety of settings with exceptional children, adolescents, and adults. For five years he taught exceptional children and adolescents in the ineer city schools of Indianapolis, Indiana, and in the Appalachian regions of eastern Kentucky and southern West Virginia. Mr. Marlowe also spent two years counseling institutionalized psychiatric patients as a community placement worker at a state hospital for the mentally ill in Lexington, Kentucky.

In 1975, Mr. Marlowe married the former Susan Lynne Britlingham. His wife gave birth to their first child, a son named Jay, in the fall of 1977.

In August, 1976, he began studies for the Ph.D. degree in special education with an emphasis in emotional disturbance. Mr. Marlowe will complete the requirements for the degree of Doctor of Philosophy in August, 1978. He has accepted a position as an assistant professor of special education at Tennessee Technological University in Cookeville, Tennessee.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Mary K. Dykes, Chairperson
Associate Professor of Special Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Robert F. Algozzine
Assistant Professor of Special Education

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully acceptable, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the Department of Special Education in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1978

Dean, Graduate School

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